

Journal of the American Society of Professional Graphologists

Thea Stein-Lewinson

Sarah Garroway, D.Sc. (Hon.)

The Use of Handwriting Analysis in Psychotherapeutic Practice

Herry O. Teltscher, Ph.D.

Centenarians

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Drug Addiction in Handwriting: A Longitudinal Study

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**The Wittlich Graphological Character Diagram or Schematic
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Marc J. Seifer, Ph.D.

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ANNOUNCEMENT

Thea Stein Lewinson, has decided to pass the torch of the presidency to Dr. Alan Levine, formerly Vice President. For a number of years, Mrs. Lewinson had envisioned the establishment of a professional graphological society with a membership of the highest scientific calibre, with goals that would lift research and accompanying education to new levels. To this end, The American Society of Professional Graphologists was started in 1987 under the leadership of President Lewinson. After four years as president, the priorities of a busy professional and personal life have led her to step down. Mrs. Lewinson's long list of publications in recognized professional journals here and abroad continues to grow along with the demand as lecturer. We are pleased she will remain in touch with The Society as Honorary Member and congratulate Dr. Alan Levine for his new role as President, and Pat Siegel as Vice President.

Sarah L. Garroway
August 25, 1992

THE JOURNAL OF THE AMERICAN SOCIETY OF PROFESSIONAL GRAPHOLOGISTS

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PURPOSE OF THE JOURNAL

1. To present theoretical and research papers in scientific graphology according to traditional academic standards.
2. To create a forum for helping graphology gain a wider academic and professional audience in America.
3. To interface with the international professional graphological community.

GENERAL INFORMATION

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American Society Of Professional Graphologists

NEWS AROUND THE COUNTRY

Two new handwriting organizations have been formed. The first is The American Board of Forensic Handwriting Analysts. Their goals include the use of handwriting analysis in behavioral assessment, questioned documents and forensic research. The contact person is Robert O'Block, Ph.D., Professor, Administration of Justice, College of the Ozarks, Point Lookout, Missouri, 65726. Phone: (417) 334-6411.

The second is the Human Graphics Center. Their goals include the creation of a comprehensive graphology lending library and an umbrella organization for research. Members can also be entitled to professional liability coverage via Complete Equity Markets, Inc., an insurance company based in Illinois. The contact person is Iris Hatfield, 9300 Shelbyville Road, Suite 930, Louisville, KY, 40222. Phone: (502) 423-8423.

LETTER FROM THE EDITOR

In 1970, I began my career in the world of graphology with courses at the New School For Social Research in New York City. At that time, my teacher, Dan Anthony, instructed his students to read all of the classics in the field, including *Handwriting Analysis: A Series of Scales for Evaluating the Dynamic Aspects of Writing*, by Thea Stein Lewinson and her partner Joseph Zubin, Ph.D. As the book was written in 1942, which was a number of years before I was born, I remember being amazed at the time that Mrs. Lewinson was still rather active in the field. Nearly 20 years later, and virtually "out of the blue" I received a call from her inviting me down to her Bethesda Maryland home to attend a meeting of a newly forming graphology group.

In 1987, along with a number of other New School attendees (most listed on the inside front cover of Volume 1), I attended the first meeting of our Society. It was the second time I had met Thea; the first time was at the Israeli Congress of 1985. Landing in Washington, D.C., taking a cab to her home with my mother Thelma Seifer, and Pat Siegel, I remember letting my imagination wander. I thought about Thea's long career and interface with such clandestine organizations as the CIA where she worked as a handwriting analyst, and not as a questioned document examiner.

Thea greeted the New School people warmly as she led us down to her basement office. There, on the left, was a sizeable library with her textbooks neatly categorized into two groups: graphology and pseudo-graphology.

Over the next few years, and during our many conversations, I took the opportunity of asking Thea about her life in graphology in Europe before World War II, and she related stories about the people she knew such as Max Pulver, Ludwig Klages, Werner Wolff, Gordon Allport and J. Crepieux-Jamin.

Never one to hold back opinions, Thea stated, referring to Crepieux-Jamin, that "We

never thought much of the French.” She also was unimpressed with another of my graphological heroes, Werner Wolff, a rather “small man” who she studied “side by side” with under Martha Goldberg in Berlin. Thea was drawn to more statistically oriented graphological techniques, and the theories of Ludwig Klages, as opposed to the somewhat amorphous depth psychology of Wolff’s “Diagrams of the Unconscious.”

“Max Pulver, of course, was most impressive,” Thea added. “He was very imaginative and influenced by psychoanalysis and spiritual things. As a writer, he was interesting, [original] and fascinating.”

“Did you ever meet Carl Jung?” I inquired, knowing of Jung’s relationship to Pulver.

“Only at a lecture in New York. When I saw him I was disappointed. He was a little fat man and not as mythical [as I expected],” she added with a chuckle.

“How did Pulver get along with Klages?”

“Not at all. When a Pulver man spoke at the Congress [of 1939], the Klages group got up and left. He and Pulver were on a collision course. Pulver said he never read Klages; but Klages wrote ten volumes and I read all of them.”

“And Klages’ talk?”

“Klages gave a ridiculous lecture on voluntary movement which he had published in 1910. However, he was charismatic and a terrific presence. He was the one who put graphology on the map, and the basis of my book *Handwriting Analysis* rests on his ‘science of expressive movement’ ” [i.e., on contraction and release as revealed in the rhythm of the writing —see her article, Volume 2]. Klages wrote complex German, but his own philosophy was close to the Nazi philosophy.”

“Was Klages really an anti-Semite?”

“Oh, yes, of course. He was very anti-Semitic,” she said. Thea explained that a number of years earlier, Klages had gotten into a fight with a Jewish journalist, and had become anti-Semitic ever since. “The mind for Klages was representative of the Jew, and the soul representative of the German. Klages claimed that the mind suddenly tore into the soul and destroyed the soul, so the Jew destroyed the Germanic soul. Klages had an obnoxious personality, but he was very good looking,” she added.

The European/American analyst Erika Karohs stated at the 1992 AAHA/AHAF Denver conference that “When Hitler came to power, Klages positioned himself so that only his system came in. Klages used the Fortune Telling Law to put 90% of the graphologists out of business [so that only his school would remain].”

We wish Thea Stein Lewinson continued success in her endeavors. Having just returned from lecturing in Europe, Thea remains an imposing and creative resource to this labyrinthine and multifaceted field.

Just as the Society is pleased to announce that Dr. Alan Levine has accepted the post as President, we also welcome Sylvia Topp as Associate Editor. Having attended the University of Mississippi, New York University and Columbia University, Ms. Topp brings an eclectic approach to her interest in the field. Having completed a four-year program in

graphology at the New School For Social Research, Ms. Topp has spent her entire working life in the publishing industry. She is presently Associate Production Manager at the *Village Voice*, where she has been for the past six years.

Volume 3 of the *Journal* begins with another icon of the field, Herry Teltscher, whose textbook *Handwriting: Revelation of the Self* endures as an important resource. Drawing from his private files, Dr. Teltscher has chosen a number of handwritings including that of a mother, father and son, all which portray important links between handwriting analysis and psychotherapy.

The next two articles involve empirical research and case studies. Blanche Lyons' work on the handwritings of individuals who have reached the age of 100, contains an in-depth look at four of her twelve subjects. Virginia DiLeo's longitudinal study of a drug addict not only contains insights on the nature of drug addiction, but also portrays illustrations that have value in the field of developmental psychology, as the reader follows a troubled youth through his handwriting from grade school to early manhood.

Sponsored by Thea Stein Lewinson, Betty Delmar's article on the Wittlich Graphological Technique presents in concise fashion an extremely complex and valuable typology. This article also represents the first treatise from outside the Society, and is thus a symbol for the expanding base of the *Journal*.

Dr. Alan Levine's article on "Physical Aspects of Stroke Texture," started out as an attempt to replicate the findings of Pophal. Although Dr. Levine's conclusions tend to refute Pophal's research, the treatise succeeds in an entirely different and unrelated way: as revealing a technique for portraying microscopic photographs of the writing trail. This technique, which was borne in part out of his interest in photography and work as an opthamologist, has widespread application especially in the field of document examination. The last article, by Marc Seifer, is on the handwriting of Howard Hughes and the Clifford Irving forgery.

With this third issue, it is the hope of the *Journal* that it can continue to become a forum for all forms of scientific graphology embracing such fields as psychodiagnosis, questioned documents and forensic research.

Marc J. Seifer, Ph.D.



November 28, 1992

Marc J. Seifer
Box 32
Kingston, RI 02881

Dear Dr. Seifer:

Thank you so much for your letter, the copy of your book "Nikola Telsa," and the journal of the American Society of Professional Graphologists. I'm looking forward to reading your book. Your support is deeply appreciated.

Your thoughtfulness and encouragement mean a lot to me.

Sincerely,

Bill Clinton

BC:dm:lm

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THE USE OF HANDWRITING ANALYSIS IN PSYCHOTHERAPEUTIC PRACTICE

Herry O. Teltscher, Ph.D.

*Lecture given November 2, 1991, at the American Society of
Professional Graphologists*

ABSTRACT: The use of handwriting analysis in psychotherapeutic practice is based on the holistic approach to the understanding of personality. Rather than referring to isolated traits derived from the examination of single graphic strokes, loops, t-bars etc., the total patterning or gestalt of the handwriting picture needs to be carefully evaluated before the inferences about the character of the individual can be drawn.

Similar thoughts have been expressed by a number of observers of human behavior, ranging from the neurologist Kurt Goldstein in his pioneering work *The Organism* several decades ago, to a more recent study by the psychologist Jesse Harris of the University of Kentucky. In the August 1980 issue of the *American Psychologist*, Harris states: "One identifiable problem with the well-entrenched argument that traits of personality...do not lend themselves to reliable measurements by different observers or in different situations is that a single elemental personality trait cannot be adequately observed or measured in isolation. It is true that measurements can be taken, but is at least as important to know how that trait relates to ANOTHER TRAIT in the same person as it is to know how that trait relates to the same trait in 1000 other persons." And further: "Much variability exists among different observers when they attempt to assess either a single trait or a pattern of traits in the same individual...."

The holistic approach has held my rapt attention for the greater part of my professional life, starting with studies in Gestalt psychology at the New School four decades ago. In the early 1950s under the aegis of the psychology department with the cooperation of the Essex County Overbrook Hospital, a state mental institution in New Jersey, I undertook a blind study which described total personalities from various writers from three paragraphs of handwritten text which could be successfully matched with the clinical observations of independent judges who knew the total population. Judges who were professionals from the institution were able to match more than three out of four analyses, the results being statistically significant.

When the same group of judges who had personally known and studied the subjects was asked to rate a number of isolated personality variables of each writer, e.g., intuitive vs. logical thinking, etc., on a five-point scale, little actual correspondence was achieved. Even though the judges had intimately known each individual who participated in this study, there occurred great variance among the judges when it came to rating traits in isolation.

Thus, this research, as a forerunner to Dr. Harris' investigations, arrived at similar conclusions even though the latter, an assessment psychologist, used a different instrument of measurement, a personality research form which measured individual profiles, self-ratings, and ratings by peers.

In my study, a control group of Rorschach evaluations of the same population, carried out by another qualified psychologist, attempted the same objective: to compare the number of correct matchings of the Rorschachs with the judges' observations. The judges' correspondence with the Rorschachs was less frequent than the matchings with the graphological analyses. It seemed important to ascertain whether the quality of the graphological analyses was different from the Rorschachs. Or, in other words, did the descriptive terms of my analyses account for the higher matching success? The judges agreed that there was, indeed, a difference in that the Rorschachs tended to stress more the clinical picture, while my analyses emphasized more the total human equation, integrating the still-existing potentials and abilities within the patient's individual framework. Contrary to the Rorschachs that were primarily concerned with the disease entities, my analyses highlighted the strengths and positive features, capacities that could be salvaged and utilized in the writer, thus describing the individuals concerned along holistic lines.

If we accept the previously outlined formulations, it becomes clear that handwriting samples of clients in the practice of psychotherapy serve as an important index to the understanding of their personalities.

During the initial interview, handwriting samples become easily available by simply filling out the usual questions concerning name, address, etc. including signature, if possible. At the beginning of therapy the grapho-diagnosis and psychodiagnostic evaluation assist the therapist in the formulation of the existing problems or supplement his own knowledge and understanding of the client's personality gained from various other sources like psychological test batteries, inventories, and the therapist's own observations. The grapho-diagnostic findings should further the clarification of the client's intellectual aspects, his/her ego strength, temperament, attitude toward the same or opposite sex or toward people in general and his/her ability to adhere to treatment goals. If earlier handwriting samples are available, they can be used to illustrate aspects of earlier development and background and environmental influences. Further, a comparison with former handwriting specimens may establish the onset of a disturbance.

The utilization of grapho-diagnostics serves to objectify the clients' perceptions of various family members, particularly the parents and siblings. This can be accomplished if handwriting samples of family members are available.

During the course of psychotherapy, the progress, setbacks, regressions, and mood disturbances can be studied by periodic examinations of the client's current handwriting specimens. In this connection, it might be useful to compare the text with the graphic manifestations. The content of a specimen may be at variance with the graphic picture (similar to "slips" in everyday speech). Frequently such clues occur in words or sentences that

are emotionally charged. This often contradicts the conscious contents or intention of the sample, and draws the therapist's attention to the existing conflict.

As new individuals enter the client's sphere, a suggestion can be made to obtain handwriting specimens of these people for the purpose of evaluation. This becomes particularly pertinent if the client experiences difficulties in interpersonal relationships with any of them. In comparing specimens A, B and C, does the therapist find similar patterns in all of them, and/or is the client unconsciously attracted to each for the same or similar reason? This process can aid the clarification of success or failure of the client in relationships.

Another modification of the use of handwriting samples of important figures in a client's life is to compare her/his description of these personalities with the therapist's objective findings derived from the analysis of their writings. The results will serve to corroborate (hopefully!) or negate the client's awareness of reality. Handwriting changes as the result of the psychotherapeutic encounter have been described elsewhere.* At the termination of the treatment, handwriting samples will indicate the progress that has been accomplished.

In today's psychotherapeutic practice the emphasis is shifted from, what was formerly called psychoneurotic disorders or affective disorders to a growing amount of clients with personality disorders. In psychological terms the many varieties of psychoneurotic disorders are primarily characterized by the existence of anxiety and the reaction patterns (defenses) to it. According to the original concept, developed by Freud, a hundred years ago, a typical neurosis was the result of the repression of libidinal energy, or sexual impulses, leading to conversion symptoms (hysterical paralysis, blindness, etc.) without any organic basis. This discovery led Freud to his search to find a "cure" which further gave rise to the birth of psychoanalysis with first hypnosis, and subsequently free associations, dream interpretation and daily couch visits of his patients. His strict adherence to his proposed method of therapy was consistent with the existent rigid class structure, repressive sexual mores and respect for authority. Conflicts, then, revolved mostly around anxieties as a result of dammed up instinctual drives and the overly restrictive taboos that existed in the Viennese culture of the day.

Today's world is vastly different from the one that Freud encountered. Particularly, in the last few decades in our society we find a much greater freedom of sexual expression, exhibitionism, informality and a lessening of restraint or guilt. On the other hand, it has been commented on that the more unrestrained expression of sexuality has been attained at a loss of emotional closeness and the ability or relate on a truly intimate level. The resulting problems appear in the form of increasing alienation, fear of abandonment and ultimate loss of one's self which prevents the attainment of the very closeness which couples are seeking. The emphasis on getting one's goal quickly causes the drive for immediate gratification (e.g. fast food, daily lottery) only to be disappointed in the end. The ensuing conflicts find their expression in the so-called personality disorders, ranging from Antisocial Personality Disorder and Borderline Personality Disorder to Passive-Aggressive Personality Disorder,

**Handwriting—Revelation of Self*, Chapter IX, Hawthorn Publishers, 1971, New York.

to name just a few. What renders diagnoses more difficult is the fact that often syndromes tend to overlap or psychiatric nosology changes-as duly noted by the frequent revisions of the Diagnostic and Statistical Manual of Mental Disorders (at present DSM-III-R but a new DSM IV is already in preparation).

When using handwriting as a means to evaluate mental or emotional disturbances, the emphasis must be on the assessments of several graphic indices within the writing as a whole. It is a well-known fact that handwriting is itself actually created by the binding and releasing tendencies of the muscles. This is what constitutes the rhythm of a writing. In the healthy individual the change between tension and release is rhythmically well-integrated. Figure 1: The deterioration of this rhythm is evidenced in the handwriting of the disturbed. Gross graphic disturbances have been observed in the writings of the psychotic, whereas the garden variety of neurotics show less graphic disharmonies. Each personality disorder leaves its own distinct trail in scripts.

"President Roosevelt tonight pro-
claimed that an 'unlimited
national emergency exists,' a
step which, under the laws
the Chief Executive can take
only when he believes war
to be 'imminent.' The President
himself made the announce-
ment in a radio address to
the nation."

Figure 1: KEYNOTE*: Outstanding rhythm, high loops and high-flying t-bars. This is the handwriting of the Grand Old Man of American philosophy, John Dewey. These graphics indicate idealistic interests, preoccupation with freedom of thought, and spiritual and mental values. Reduced one-half.

*Keynote: a whole quality of the writing that plays a dominant role.

Here are some of the characteristics in the handwriting of the emotionally disturbed: Medium-sized to small writings, varying pen pressure, wavering lines, different slants, narrowness (particularly in the middle zone), cramping, lack of proportion in spacing, clear and indistinct words in one line, thread-like connecting stroke, lower zone shows many variables (e.g., too small, too large or neglected). The gestalt of the writing is formless.

week hit all at once.
 So please forgive my seeming
 rudeness and accept all the same
 time our delighted thanks for your
 gift and your good wishes. The
 pitcher is indeed handsome, and we
 are very pleased with it.
 I hope you will accept a rain-
 check and come see us soon so
 that I can (finally) meet you and
 thank you personally.
 Cordially,

Figure 2: KEYNOTE: Crowded writing that fills out all the available space. Female, 30. Wants and attracts immediate attention. Words close together, entanglement of the lower zones with the lines below. Her instinctual drives interfere with her reasoning ability though the connected strokes will allow her to engage in rationalizations. Always finding excuses for her confused functioning. Good level of energy as evidenced by strong pen pressure. Compulsive, "acting out" behavior. Garlands, slant to the right, she can be quite sociable but—as the long extended lower loops and strong horizontals indicate—she wants to have her own way.

a wonderful day & book. The legs of this
 man are a little bit and his mother gave
 him a lot of pampered, happy days large

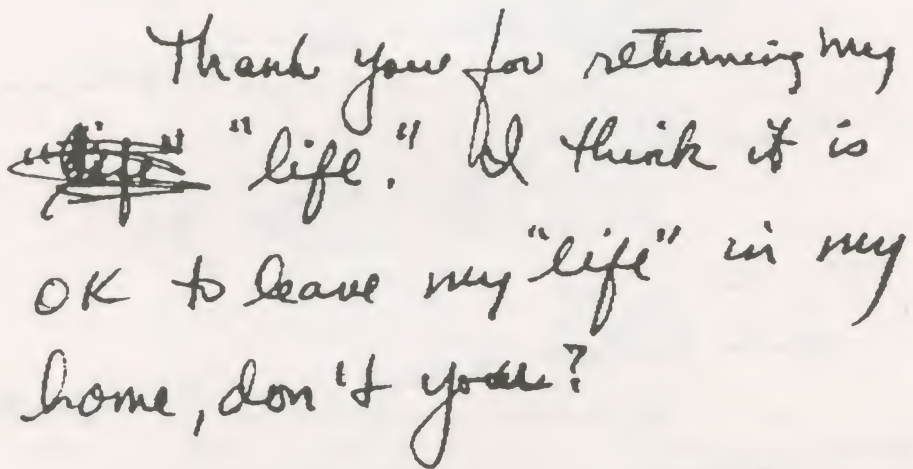
Figure 3: KEYNOTE: Narrow backhand writing. Compressed letters; extended upper and lower loops; firm and weak horizontals; all reveal a picture of internal discord, avoidance of intimate contacts in favor of introspection. Strong internalized anxiety. Reduced one-third.

Thank you for sharing
 the letter with me. I could not
 come today, the reception clerk
 red the letter to me.
 I do hope I will hear from
 you when they come here,
 I know how very busy they
 will be.
 Spoke to Karen today, she does speak
 some better, but does not think so,
 my appreciation & Love

Figure 5: Man, middle-aged. KEYNOTE: Distinct downhill writing, small size, thin strokes, end strokes upward, thready middle zone disproportionately larger. Though he makes attempts to rally, basically very depressed individual who feels isolated (long distances between words, small writing, thin pressure). Unsteady letters in the middle zone reveal lack of commitment in his dealings with people, thin stroke indicative of special sensitivity, self-consciousness. Filled out "e's" like cover stroke indicative of secrecy or "glossing over" things he does wish to disclose. Emotionally passive.

In the various personality disorders graphic features often emphasize large, overly ornate or flourished configurations out of proportion with the available space or, on the contrary, the writing may appear overly regulated, rigid and small. The slant may vary from paragraph to paragraph or from page to page, or else a formerly large script may suddenly change into a small sample, the letter "I" may show many variations; the spatial distribution may be uneven with wide left margins or, on the contrary, no left margins. Blocking out of letters or words may occur, sometimes leaving dark spots or circles on the paper; the whole writing may look sloppy and disorganized; lines may rise or fall or vacillate.

In paranoid disorders in which the withdrawn, isolated characteristics points to a schizoid component part, the entire appearance may more angular, emphasizing the vertical direction or leftward slant with large distances between words or lines while appearing more regulated or rigid as a whole.



Thank you for returning my
~~life~~ "life." I think it is
OK to leave my "life" in my
home, don't you?

Figure 6: Male, fifties. A good example of a "slip" in handwriting. The outstanding graphic characteristic is the first word "life," second line, that is criss-crossed, blackened out and retouched—as though he wanted to hide his life, yet he did not quite succeed because the word can be deciphered easily. The following word "life" is clearly legible. What is the story behind his unsuccessful attempt to write "life" the first time? The note was written to a woman friend who has returned LIFE magazine to his home when they decided to part from each other. However, he could not forget her and he continued to pursue the relationship. she believed very much in the usefulness of psychotherapy because of her own positive experience in the past and now she prevailed upon him to seek the help of a therapist to strengthen the relationship between both. When writing the word "life", unconsciously he "rubbed out" his first life that was filled with disappointments and failures in favor of a "second life" that he envisioned as a simpler and more satisfactory as the result of his therapy.

Figure 7: Does this specimen need any interpretation or does the writing speak for itself? The overwhelmingly large name which occupies the whole writing space with the exaggerated lower loops and the three upward crossings and the purple ink are typical of the dramatic exhibitionist who likes to display her wares in an obvious manner. Eager to participate in social events and well-connected, her narcissism prevents her from establishing truly intimate relationships. Her grandiosity and her lack of empathy further put her in an emotional ivory tower.

Figure 8 is the handwriting of a divorced male. Feeling isolated and miserable when I met him, the list which I presented contained a long series of complaints. Despite his much better than average I.Q. level, he was not working when I first saw him and he did not know how to proceed to attain a compatible job. He was the only child in his family; both parents had died in recent years.

1. When asked if something can be done for guilty if I SAY YES.
2. If complimented, I feel back look for a.
3. Feel guilty taking time for myself. Often
4. Uncomfortable in crowds. Enjoy one to one
SARONIA RELATION
5. Fear loss of love + rejection if I SAY NO
6. Envious of people having careers having
7. Scared at being 45 + SCATTERED. WANT to
- ~~8. Miss drifts who history to the present~~
1. Cannot connect or relate to male STEREOTYPE,
male Role models

Figure 8: Male, mid forties. KEYNOTE: A picture of graphic contradictions. No central unifying core, e.g. a mixture of printed and script writing. Varying slants: forward, vertical and backward. Writing seems to wobble back and forth, alternating between clearly legible and illegible words. Variations in size of middle zone from large to small (dwindling letters), e.g. "functioning," "looking." Often small letters seem overly close together, leaving the impression of crowdedness. Leftward tendencies in words that are emotionally charged, e.g. "guilty," first word, second line from top, and second word, fourth line from top (as though he is wrapped around in his guilt). Finally, the triangular shape of the "I" is typical of the family constellation. Mixed personality disorder.

Dear —
 An indeterminate day,
 hurried with fathers of close
 boats are all out park
 just takes to — she's re
 few letters from you which
 I've seen your family also
 it's a welcome oasis of
 the day — I make room for
 baby is delightful and I love
 her. Love so often

Figure 9: Female, fifties. Her writing appears large, formless, red ink (attention seeking). Lines rising upward. Spatial distribution poor. She fills all the available space on both pages. Overly large capitals; variations in the lower zone from extended lower loops and strokes to small to non-existing loops. Variable pen pressure; letters in middle zone often thready or letters toward the end of the word unclear, smaller than at the beginning of the words. Variations in the size of the personal pronoun "I" from overly large to overly small. Compare "I" beginning of second paragraph with "I," seventh line from the bottom. She addresses her letter to her son with "Dear" and a horizontal stroke, leaving out his first name. And at the end of the letter the word "Mother" is extended over half the space of the last line.

Figure 9 is the handwriting of Figure 8's mother. All the graphic characteristics point to the writer's narcissism, a preoccupation with herself that left no time for nurture of her child. She compensated for her low self-esteem by seeking a successful career outside her home though she never was certain of her own identity. In this connection it becomes clear that she could only have tolerated a passive male as a marital partner.

Figure 10 is the writing of her husband, at the time a man in his sixties. By comparison with his wife's handwriting, his script looks small and puny and jittery. He writes on a small piece of paper (a letter to his son) that is lined and starts at the red line on the left, proceeding toward the right margin—this seems like a prescribed structure, not unlike a child's first scribbles on his first notebook.

The thin, compressed lower loops, the lacklustre script in addition to the previous observations spell out a passive, introverted male, emotionally poverty-stricken, who lives in his own world and pays little attention to his family members. He was completely dominated by his wife who found expression away from her home in a artistic environment. Though they were never formerly separated, their emotional separation was going on for many years.

Handwriting analysis has a number of uses in the clinical practice of psychotherapy. No claim is made about graphology being superior to any psychological tests battery or mental status examination. However, it has been demonstrated that handwriting analysis can make important contributions to the understanding of human nature (especially because of the easy availability of handwriting specimens). The diagnostic value of psychographology was validated a number of years ago. Still, I am fully aware that continuous research and further replication studies are necessary to enhance the greatest utilization of this projective technique to delve into the symptomology and many complexities of mental and emotional disease.

A handwritten signature in cursive script that reads "Mother". The signature is characterized by a long, sweeping horizontal line that extends far to the right, indicating extreme horizontal expansion. The letters are thin and compressed, consistent with the description in the text.

Figure 9 (continued). Note the extreme horizontal expansion in the signature "Mother."

Dear Jim,

I am glad there was TV when I grew up ~~and~~ and radio. Thus, I had free time to attend lectures by Dr. Will Durant and other famous authors and ~~mini~~ visit all the museums in N. Y. C., spend a good deal of time at the 42nd Street Library - doing research on my favorite subjects, such as history and law.

You may want to see copies of this memo, plus your own comments to your sons.

Love

Dad

Figure 10: Male, sixties. Graphic inconsistencies are evidenced in the insecure line direction, leftward tendencies in an otherwise forward slant, variations in the middle zone from large to small, corrections within words, dark horizontal stroke, thin, sharp writing, connected stroke (for the most part), capital letters. Basically, a formless, shapeless, inharmonious gestalt. Look at the small signature "Dad" by comparison with the larger-size "Dear Jim." Boundary lines unclear. Who is the father and who is the son?

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CENTENARIANS

Blanche Zebine Lyons

ABSTRACT: The subject of this paper is a report of the preliminary findings of an analysis of the handwriting of centenarians. The purpose was to determine what psychological qualities 100 year old people had in common. From the twelve writings studied so far, a psychodynamic profile does seem to emerge. The paper starts with the results of research done on the aging process, in order to acquaint the reader with what living to be 100 years old entails.

While the life expectancy in this country has been increasing over the past decades, the number of people who live to be 100 years old is still quite small. According to Claude Pepper, the U. S. Congressman, there were 125,000 people in the United States in 1990 who had reached the age of 100.

Rarity usually creates great value and also considerable interest. So it seems surprising that there had been very few studies done of centenarians. One author states:

“Even though old age is becoming a more fashionable topic of conversation and the aging population a large target for advertisers, there are probably still more books about very old cars, houses, paintings and even dishes than about very old people. We seem to be squeamish about looking at the reality of aged human beings, almost as if we were terrified by what, if we are fortunate, will become of us. So great has been our fear of old age that one survey showed fewer than half of us want to live to be 100....The stories of the hundred year old people you will meet here may invite your mind to roam in new directions, for much of what they say and who they are contradicts our negative attitudes toward longevity—and a change in attitude is long overdue” [8, p xiii].

One of the reasons for the negative attitudes as well as the misinformation about old people is that for a long time aging was confused with disease. Only recently have researchers obtained a clear idea of the types of changes that occur as a result of the aging process in the absence of disease. But when a great number of diseased individuals were included in a subject sample of old persons, a negative bias was created, and the myth of aging as a period of intellectual decline and senility persisted. Another reason for negative attitudes towards old people has to do with intergenerational conflict. “Attempts to overcome early conflicts may not be entirely successful and may result in ambivalence. That is why no child, regardless of age, can tolerate his parent aging and growing feeble without accompanying guilt feelings. And the fear of death and the dead is closely connected with the concept of one’s own death, death itself, and anything that has to do with the approaching end. One must, therefore, in self defense, stay away from anything this close to death” [12].

At best, or course, there are changes and detriments that are an essential part of aging for everyone, and the following is a brief account of them, much of it based on a book by Thomas Hager and Lauren Kessler called *Aging Well*.

To start with, there are the most obvious changes, such as the graying and thinning of hair, and the wrinkling, drying and sagging of the skin. These losses, although they may be narcissistic wounds, have little to do with the functioning or survival of our bodies. The decrease in the sharpness of our hearing and our vision are unpleasant and at some point require the use of vision or hearing aids, but they do not seriously affect our functioning.

Our basal metabolism (the rate at which the body burns calories when at rest) decreases with age. This has been found to be due to a diminishing muscle mass; but we don't *naturally* lose muscle mass as we age. We lose it because we don't use it, and regular exercise is the answer to controlling the weight gain and fat build-up that comes with age.

Our bones also change with age. Resorption, the breaking down of the bone, begins to outpace bone construction by the mid-twenties. "Women have rapid bone loss from approximately age 45 to about age 60, whereas men have most bone loss from about 70 and increasing through the 80s" [11, p. 137].

When bone loss is accelerated to the point where the skeletal system is dangerously weakened, this is due to a disease called osteoporosis. Of the millions of people affected by this, most are women. It has been found recently that this can be treated either by estrogen or by specific medications. It can be diminished or averted by diet and exercise, especially if started in the 30s or 40s.

Other diseases, such as arthritis (an inflammation or degeneration of a joint) and osteoarthritis (the wearing away of the articulating cartilage), which afflict many old people are not actually a part of the aging process. However, our joints do change. "With age, the tissue surrounding the joints begins to fray and erode, and bones can alter their shape"[7]. However, unused muscles quickly atrophy, so keeping muscles active is the way to maintain their size and strength.

The cardiovascular system (the heart and the blood vessels) shows the effects of aging rather slowly. Decrements previously thought to be due to aging are now considered to be disease related. One example is increased blood pressure, now found to be due to disease rather than to aging [11].

The incidence of chronic disease increases sharply from about age 45 and begins to be very high from age 70 onward. Old people as a group are more likely than other age groups to suffer from multiple chronic conditions without, however, being necessarily severely limited by any of them.

Of course, the incidence of life threatening diseases, such as hypertension, cancer, and respiratory disorders, also increases with age. Needless to say, the quality of the medical and nursing care that the old person has access to can make a tremendous difference in coping with illness.

Now let's take a look at the brain. Dr. Zaven Khachaturia, a director of research at the National Institute of Aging, said, "If you really study aging carefully and look at it in the absence of disease, there is no reason to believe that aging per se leads to decline and loss of cognitive and intellectual activities" [13].

There is no doubt that the brain does change with age. "At birth it is about one third its full size. The nerve cells multiply through the first years of life until the brain reaches its full size at about age 20 or 25 years. At this point growth stops and throughout the rest of our lives we are unable to grow a single new brain cell" [7, p. 146]. This means that as cells die, and a great many do, they are never replaced. Consequently, the brain shrinks as it ages, losing about 10% of its weight.

But this is not the whole story. Dr. Carl Cotman, of the University of California at Irvine, has found that "The old brain seems just as capable as the young brain at growing new connections between brain cells" [13]. In this way the brain can compensate for the loss of cells or repair damage that has been done to one area of the brain. Perhaps this is why, in a study of IQ test scores, it was found that the old and young people got almost the same average scores on the tests of verbal abilities. And other investigators, looking at the physiology of aging brains, have been surprised at their flexibility. Apparently the "use it or lose it" hypothesis applies to the brain and, indeed, this belief has been supported by animal studies.

Next we'll take a look at the endocrine system, which is made up of about 11 glands producing at least 25 hormones that regulate the body's everyday activities and also long-term processes such as growth and sexual development. At present, it seems as though aging has no great effect on this remarkable system with, unfortunately, three major exceptions. First, there is the possibility of developing diabetes, which is linked to hormonal change. Second, there are changes in the ovaries which lead to menopause problems for some women. Third, the thymus gland undergoes changes with age that may affect the immune functioning. The immune system itself is very complex and still not fully understood. Greatly simplified, it is controlled by the thymus gland, which regulates two kinds of cells, the T and B cells which the body manufactures and which protect it from illness. With aging, the activities of these cells, especially the T cells, are suppressed, and thymus shrinks rapidly. Although the ability to ward off new infections declines with age, the immune memory response remains unimpaired throughout life. This makes it possible to continue to fight off most infections, especially those that the person has been exposed to before.

There has been a great deal of interest in the immune system in recent years, since it has been found to be involved in practically all serious diseases. In studying this very complex system, researchers had found it to be the link between the emotions and the diseases of the body. We who are psychotherapists and psychoanalysts have long known of the connection between physical illness and the emotions, but proving it has been a different matter, and most doctors remained unconvinced.

Sir William Osler, called the father of modern medicine, was an exception. As long as a century ago he said, "The care of tuberculosis depends more on what the patient has in his head than what he has in his chest." Now, one hundred years later, scientists have begun to decipher exactly how stress and other emotional states can influence the onset and course of the disease.

According to an article in the *New York Times*, "Animal and human studies have revealed that emotional reactions can suppress or stimulate disease-fighting white blood cells and trigger the release of adrenal gland hormones and neurotransmitters, including endorphins, that in turn affect dozens of body processes. This fast-growing field of research has even been given a new name—psychoneuroimmunology—and is finally beginning to win the respect of the modern medical establishment....More and more, the emotions are being considered necessary components of the cause as well as the treatment of most illnesses" [2].

Dr. George F. Solomon, a psychiatrist from the University of California, writes, "The brain influences all sorts of physiological processes that were once thought not to be centrally regulated." Suggesting that the term "stress" should be redefined, Dr. Solomon concludes, "It is how a person responds to life events, not the events themselves, that influences susceptibility to disease....Failure to cope well with stress can impair a person's ability to fight off illness, whereas adequate coping with a high stress life may reflect psychological hardiness that is actually protective" [2].

Stress can occur not only in coping with the aging process itself, that is, the loss of youth, but also with other losses such as those that come with retirement, whether forced or voluntary. Relinquishing the work that has been one of the most important aspect of one's life for many years means the loss of power, of prestige, of one's value to society, of financial security and possibly a loss of self esteem. It can also reactivate old anxieties and feelings of inadequacy that had never been resolved. For many people it can mean a decrease in income that forces them into a lower standard of living.

A loss of a very different nature is the loss of a spouse. As Judith Viorst puts it: "The loss of a husband or wife is the compendium of many different losses. For we may mourn, in the death of a spouse, our companion, our intimate friend, our protector, our provider, our partner in parenthood. We may mourn no longer being part of a pair...we may mourn the shattering loss of a whole way of life. Some of us, whose role was to cook for, to care for, to be with our mate, may mourn the loss of the purpose of our existence. And some of us, whose sense of self was built upon our spouse's approving presence, may find that we are also mourning the loss of that self" [18, pp. 257-58]. To add to all of this, the surviving spouse suffers the loss of a sexual partner, with the attendant sexual deprivation.

There are also other losses through death—of parents, siblings and friends. People who are very old have to cope with more and more of such losses, happening at a time when their need for these others is greater than ever before.

Is aging, then, only a period of compensating for losses with as good grace as possible? Are there any positives to be found? Is it a time when further growth can still take place, or are old people too rigid and too resistant to change?

Here is the fantasy of a woman who is deciding how she is going to spend her old age: It is a poem called "Warning," by Jenny Joseph [18, p. 296]:

When I am an old woman I shall wear purple
With a red hat which doesn't go and doesn't suit me
And I shall spend my pension on brandy and summer gloves
And satin sandals, and say we've no money for butter.
I shall sit down on the pavement when I'm tired
And gobble up samples in shops and press alarm bells.
And run my stick along the public railings
And make up for the sobriety of my youth.
I shall go out in my slippers in the rain
And pick the flowers in other people's gardens
And learn to spit.

Jenny Joseph is telling us that her idea of old age is a time when she can throw off many of the constraints that had bound her all of her life; that she no longer intends to be controlled by what others may think of her, nor to be the good girl that she always thought she had to be; that instead she will express herself as freely as she pleases. Many people do find themselves exercising more freedom in old age than they had allowed themselves earlier. This can be one of the positives of growing old.

According to Erik Erickson in the "Eight Stages of Man," those who have successfully resolved the crises of the first seven stages of life now have the task of achieving integrity rather than giving in to despair. He believes that one must come to an acceptance of one's one and only life cycle as something that had to be, and thus to take full responsibility for one's own life. When one is able to do this, he says, "death loses its sting." But failing to do it leads to despair, because the time is now too short to try again, to look for an alternate road to integrity [5, p. 268].

Gerontologist Richard Kalish believes that old people have a unique ability to achieve personal growth. Those who have worked through their fears of dying find that this awareness that life is finite provides the impetus to use the time that is left constructively and to achieve a sense of personal wholeness that is not possible at any other point in the life cycle. Thus, the later years should be seen as providing opportunities for flexibility, joy, pleasure, growth and sensuality.

There is now general agreement among professionals in the field that old age need not be a period of decline and disability. It can be either a time of depression and despair or of continued vitality and growth.

Still, there are only a small number of people who live to the age of 100, which raises the interesting question: What accounts for their longevity? Is it all due to heredity? If it is, wouldn't there have to be a gene for longevity?

Dr. Torack delves into this question. "First of all," he says, "we must recognize immediately that no national group has demonstrated a statistically significant segment of the pop-

<p>prophethood of M. Moses and Jesu EN - or conflict. I</p>	<p>I think the most for my happiness CS You are right</p>
<p>So, Norway. Con LE Life, I work</p>	<p>We found ourselves world. bid sightless full of contrasts. But EF a new city alongside is have great cha.</p>
<p>I was born 1889 PA I live</p>	<p>Good & happy- me not much JC beautiful jar of + 7.1.1</p>
<p>at meet the getting along SA I'd. me</p>	<p>up cheese grated fine. Pepperage fine. CH Crumbet fine.</p>
<p>to go this year RK ask for charity</p>	<p>Had Bus ride Through Mesa Verde WR seen how the Indians live.</p>
<p>Margaret MR</p>	<p>May 18 1891 JG Lili Chief</p>

Excerpts from the handwritings of twelve centenarians included in this study—seven women and five men. All of them led active, useful, law-abiding lives.

ulation that lives longer than ninety. Therefore, it becomes more realistic to search for longevity among smaller societies, especially those that are physically isolated." Dr. Alexander Leaf studied three such communities and wrote a book about them in 1975. They were the Hunza in Pakistan, the Vilcabomba in Equador, and the South Caucasus in Russia, each one reported to have a large number of people over the age of 100. Leaving out the Caucasus because they can make no claim for isolation, Dr. Torack states, "Leaf summarized his ideas about heredity when he talked about the Hunza and Vilcabomba, since it was in these places that a genetic effect was most likely." Leaf said, "It seemed that a genetic tendency to long life might account for many old people in both communities. But there is no gene for longevity as far as we know. There are only 'bad genes' which can increase the probability of contracting or developing a fatal illness. If the forbears of the Vilcabombas or the Hunzakas lacked such bad genes it is possible, at least, that this lack might express itself as an unusual longevity in later inbred generations" [17, p. 98]. At best, however, this is inconclusive. In a Duke University longitudinal study of people aged 60-94, Osborn Segerberg Jr. tells us that "No correlation had been found between the ages of the subjects and the ages of their parents. When he was asked about this, Erdman Palmore, the study's chief scientist, said, 'My interpretation of this finding is that the main effects of genetics on longevity occur at ages before sixty. But for those who have survived sixty years any residual genetic effects are washed out by the overwhelming weight of sixty years of environmental influence' " [16].

Since heredity alone does not explain why some people live to be 100, I have been seeking other factors by looking at their handwritings. The samples that follow are analyzed to see whether an understanding of the psychodynamics of these people give us clues to their longevity.

L. E.

Born 9-8-1888

Written 5-24-1990

This is a woman of healthy vitality and will power, who is still very much in life. She is a conservative, conventional person, a good girl who obeyed the rules and functioned very well in a perfectionistic, conscientious, and controlled manner. She also has a good sense of form and good manual dexterity.

Mrs. E. is not self-critical, nor introspective. Strongly defended, she does not admit to the self doubts, conflicts, depression, or insecurity that are underneath her cheerful exterior.

She has determination and some aggression. Although a mother, she was not really a nurturer. She is not an open person—she tends to keep her motives and her plans to herself.

Lydia E September 8-1888
 Corner St. So. Norwalk Conn.
 I had a very active life, I worked
 seventy two years of age. I wo
 have worked longer, but they
 not employ me any more.

Born in Galicia, Austria, on 9-8-1888, Mrs. E. left home at the age of twelve, and went with a sister to London, where she lived for five years. She came to America and first worked as a sales girl, but left because she was so poorly paid. She found a job trimming hats and continued this work until her late seventies, when she had to leave because of compulsory retirement. She had been married, with three children, and after her husband died in 1941, lived with one daughter in Norwalk, CT (the same town in which she had been living), until 10 years ago, when she began to spend six months with her other daughter in Florida and six months back in Connecticut.

Mrs. E. is still in good health, and always was. She exercises every morning, walks every day, regardless of the weather, has a wonderful appetite, can eat everything, still travels to Boston and to Florida alone. She is an insatiable reader, going through four or five books a week. She also has good manual dexterity; she knitted and crocheted, was a very good cook, and very meticulous. Whatever she did, she did very well.

All of the above information comes from her daughter, who says that her mother is a very upbeat person, has a sense of humor, is always happy, has never been depressed. She is also very charitable and sees only good in everyone. But, says the daughter, "This can drive you crazy—her seeing only the positive." (And it is, of course, an indication of the extent to which Mrs. E. uses the defense of denial.)

Also, as seen by her daughter, Mrs. E. can handle all her stresses very well as long as she has her support system—she cannot live alone. Independent in certain ways, she always wants to be included in everything her daughter and son-in-law do. Although this sometimes angered and frustrated the daughter, Mrs. E. never understood. Defensively, she said, "Even a stone doesn't want to be alone."

I was born July 14th
1889
— I live in a nursing
home
My daughter comes
to visit & often as she
can
she took me out for
dinner on Father's Day
I am very thankful
for the wonderful full
daughter I have
and I can not thank
her enough
Dr Paul Dr

P. A.

Born 7-14-1889
Written 7-14-1990

This round, feminine looking, graceful writing is demonstrative and expressive, like that of a performer. It is also that of a man who has strong oral needs, is very self-involved, has a great need for attention, and is immature. He is strongly defended, and indulging in fantasy is one of the ways he avoids dealing with difficult problems or unpleasant realities.

He can be demanding and aggressive or emotionally seductive. These are the ways in

which he succeeds in getting his needs met, often at the expense of others. The strong movement to the right is indicative of his continued interest in life. And the pastosity tells of his sensuousness.

A man of considerable warmth, Mr. A. also indulges in grandiosity and outer bravado.

Mr. A., born in Holland, joined the circus as a young boy and traveled all over Europe doing a perch act (on the trapeze). At 14 he broke an elbow and was told he would need an amputation. Instead, he successfully set the bone himself. After this, he began to be known as a natural healer.

He was brought to America by the Ringling Brothers, who saw his act in Europe, and here he met and married another circus performer. She left the circus in 1933 and he left in 1934 to go to school to become a chiropractor. In this field, says his daughter (also a chiropractor), he was unique. He was an innovator, a creator in technique, and a pioneer who gave international lectures.

Mr. A.'s son, too, was a chiropractor, who unfortunately died in 1959. Mr. A. was widowed in 1961, remarried, and traveled extensively.

His second wife died, but he himself was alert, capable and self-sufficient until he had a stroke in 1986. Now with weak muscles, he is confined to a wheelchair. His eyesight is poor, he can't read, and he suffers some confusion. His daughter found him too difficult to care for and placed him in a nursing home. She was very angry at him, describing him as adoring adulation, an exhibitionist, a chauvinist, very selfish, and very demanding.

C. S.

Born 5-6-1889

Written 7-27-1983

Died 10-25-1989

This was a very intelligent, cultured, sophisticated, educated man. He was an aesthete, somewhat effeminate, very form conscious, with a love of beauty. He was controlled but not unusually rigid; rather, he was contained and well organized. He had very high standards, was perfectionistic and attentive to detail.

There is an oral quality to this very pastose writing, indicating this man's love of pleasure, of nature, of art, music, color, taste, touch. The small size, the garlands and the vertical slant reveal a man who was modest and introverted; he needed time to be alone and to concentrate. He was, at the same time responsive, kind, gentle and sympathetic. But he was an intellectual, strongly disciplined, with emotions well-controlled.

The fulness of the MZ letters speak of a rich inner life, mental depth, a need for communication and expression. There was interest in reality and the ability to be moved, excit-

April 27 1953
July

Dear Mamma -

Your very newsy letter of July 18 was much appreciated by us all, but since Fettle and Bob are so busy and I am an invalid (old age) who can write and have the time will answer for them as well as myself. We were interested to hear of Carey's golf and your real estate and Suzanne's art in Nantucket and your plans for vacation at the beach. I wish Fettle could get away. She feels she has to stay at home to take care of me, I don't think she does. Fettle is learning the pipe-organ rapidly and is playing for masses at New Canaan. We hope you all have a fine vacation and Carey's golf goes well. We'll send you very much love and I send much especially to the children. Phil and Louise and daughter Louise were here for Sunday night dinner which we enjoyed very much with my best love to you
From Granddaddy.

ed, and stirred by feelings.

The very short LZ says that he was not much interested in sex or money, and the short stick figures, that he was independent, self-directed, determined not to be caught up in the needs and emotional powers of the LZ. This man had an inner life and cultivated it. His aesthetic and or philosophical interests also served as defenses, bolstering denial. The partial disconnectedness of the writing shows some spontaneity, allowing for the development of his creative potential.

Interesting and somewhat puzzling are the small decorative forms to the left of every signature. Consciously they may have been meant to provide an aesthetic balance. But on an unconscious level they would appear to be symbols of something unexpressed from the past. Sexual trauma? Homosexuality? Or some other issue he had never dealt with? We can only speculate about this.

Born and raised in the Midwest, but finding the life too narrow there, Mr. S. came to New York as a young man. His parents, who came from Alsace, brought him up as an Episcopalian but he became a Catholic and was deeply religious.

Contrary to the widely held belief that centenarians must all be very healthy people, Mr. S. first had TB when he was very young. Always sensitive and sickly, he almost died several times. He caught typhoid in Yugoslavia before the first world war, was sent to an English hospital in Venice and, after a long illness, recovered there. In 1937, when he again had TB, he stayed in sanatorium in the Italian Alps for 18 months.

Mr. S, who was a painter, married a woman who was a pianist and an interpretive dancer, but very timid and shy. They married in 1918, while he was still in uniform, having been drafted even though he had a heart condition, because the quota had to be filled. But he served in the Engineers, in Washington. They had ten children, nine of whom were boys and only six of whom were married.

His wife's family owned 50 acres of land in CT, which is where they lived and where his daughter still lives, having taken care of him since her mother died at the age of 92. Her father was interested in gardening from the time he was 12 years old, and fed the family from his own land. He also did a great deal of walking.

Extremely intelligent, Mr. S. had also been interested in science when he was young, but he gave it up to do painting. He was looking for order in his painting, and he worked out something similar to the keys in music. He also wrote for an English magazine on art, religion, and philosophy. Among his friends were George Santayana, Hillaire Belloc, Padraic Colum, and Hart Crane. He loved to write doggerel.

Mr. S. was best known for his portraits. Although he did some abstract work when he was young and did many imaginative things, he was, according to his daughter, very conservative. He went back to representational work, doing portraits and still life. He continued painting until he died, at the age of 100.

Mr. S. was very independent, preferring to sell his work to individuals, rather than

through galleries. He was able to support his family on his art, including teaching in private schools. Not shy, he had a need for people, but he also loved privacy. He had a bubbly sense of humor, which he probably used sometimes to avoid irascibility or depression.

Strawberry Hill av.

Normal

Connecticut.

age 106 July 9-1990.

A good time was had
on Centenarian Day
1990.

Born 7-9-1884

Written 5-24-1990

M. R.

This is a very powerful, dominating woman whose extremely large writing indicates her need to win recognition, to make an impression, to enjoy attention and admiration. But her disproportionately high capital letters seem to overcompensate for feelings of inadequacy. While she can act with boldness and enthusiasm, she is capable of boastfulness. The

very high, sharp angle on the third loop of her capital M seems to be her telling the world, "I'll do it my way!"

This woman has strong values, is rigid, controlling, very conventional and not tormented by inner conflicts. She is detail oriented, perfectionistic, has to do a good job. Her expectations are very high, and she has a lot of aggression—no one lives up to her expectations.

She is a woman who is sexually repressed, who sublimates her drives toward social concerns and altruism. She is restrained, reserved, verbally articulate, mentally intense.

About the capital C: The first one looks as though she lost coordination. The second one indicates an untapped emotional reservoir, leaving her with very little emotional capacity.

All of this indicates that she is well defended against anger and sex. But she actively uses her mental talents and has the self discipline to meet her own expectations.

Born in Ireland, Miss R. was one of twelve children of a very poor family. When her brothers and sisters (who are all dead now) left to come to America, she stayed at home to care for her ill mother until she died. After this they sent for her. She came to Stamford, CT in 1908, worked for Woolworth's and then at Yale Lock and Key. But she soon went to New York City to work in the Biltmore Hotel as a bookkeeper until 1956. Never married, she lived alone on 79th street until 1989.

Miss R. lost her hearing in one ear from scarlet fever at the age of five. At age fifty she lost the hearing in her other ear. She never learned to lip read—this didn't interest her. Miss R. has always been an extremely religious woman. After her retirement she went to church every day and frequently spent the entire day there. Her only other interest was in putting her nieces and nephews through catholic schools. One nephew is an alcoholic and has a retarded daughter. She held that family together.

When she was 102 years old she had a fall, which incapacitated her for some time, but she was still very reluctant to leave her apartment. She finally capitulated when her landlord paid her \$26,000 to give it up. She now lives in a nursing home in Stamford, CT, where a young woman, a good friend, takes care of her. This friend, who gave the above information, describes her affectionately as very controlling, very bossy. She marvels that Miss R. still balances her checkbook and keeps her Lord & Taylor charge account.

Since she's been 100 years old, Miss R. has been saying she doesn't understand why she can't go to heaven. No doubt it is because her will to live is still so strong, despite what she says.

CONCLUSION

This paper, which is based on the handwritings of twelve centenarians, is only the beginning of an ongoing study, but it has produced the following preliminary findings: These were people who had a lot of energy, were extremely active, and functioned well because they had the intelligence, the clarity, and the motivation to reach their goals. None of them

were passive individuals who sat back and blamed others for their failings.

Most were conservative people, who led conventional, conforming lives. This was true even of the artist, with the circus performer being an exception. They were successful in what they did because they did not set their goals beyond their capabilities. None of them set out to change the world, nor even to challenge the establishment.

Up to this point these findings tend to replicate those of the very few studies of centenarians that have been done. According to one study, the great majority of them had led quiet, unexciting lives, and apparently experienced low levels of stress.

My study, making use of graphological analyses, was able to produce findings that could not be secured through interviews and questionnaires alone. It revealed that these centenarians had strong egos and were well defended against depression, inner conflicts, frustration, and self-doubts. It was by not allowing these disturbing feelings to come into consciousness that they were able to keep their stress level relatively low. One of their defenses was denial, the psychological mechanism unconsciously used to prevent these undesirable feelings from emerging into consciousness. Since many of these people had compulsive traits to one degree or another, their denial was bolstered by reaction formation. (An example of this is turning aggression into over-friendliness.) Some used intellectualization to defend themselves against undesirable feelings. Almost all were very active people, and the need for constant activity has to be considered a defense. For a few, extreme religiosity served this defensive function. Everyone uses defenses to some degree, and these people's defenses served the positive function of allowing them to be unhampered by such inhibiting factors as depression, severe anxiety or unresolved conflicts.

Some of these people were extremely self centered. Thus, they could be very demanding, putting their own needs first. But all of them, having a need for people and being able to give on some level, were able to make lasting relationships. None of these people were loners.

Being so strongly defended, most of them were not self-questioning; they were not in touch with their inner selves. While this enabled them to function well, it limited them by depriving them of some of the fullness of their inner lives.

The centenarians expressed minimal regrets. They had achieved what Erickson considered the task of old age:

They each came to an acceptance of their "one and only life cycle as something that had to be," and having achieved integrity, none of them were in despair.

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This paper was presented before the National Society for Graphology on June 8, 1991 and also before the American Society of Professional Graphologists on November 2, 1991. It was written because Roger Rubin, having heard that I was collecting the handwritings of centenarians, suggested that I present a paper. He also acted as my consultant on the graphics. He has my deep appreciation. Patricia Siegel, who also gave me a very helpful consultation, has my gratitude.

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DRUG ADDICTION IN HANDWRITING A Longitudinal Study

Virginia Errera DiLeo

PART I

ABSTRACT: In most recent years addiction to drugs and alcohol has become frighteningly prevalent. As a result, the addictive personality is increasingly recognizable as a distinctive type that cuts across all cultural boundaries and penetrates all strata of American society. From the perspective of the graphologist, it would seem critical to recognize the profile of the addict in terms of common graphic characteristics that are the key to diagnosis and evaluation. This study will discuss the Gestalt of the addictive personality and examine a longitudinal study of one case history.

The Gestalt of the addictive personality is based on constant internal strife between the Self and the Addict. The most useful description of this conflict is given by Craig Nakken, M.S.W. He defines addiction as "a pathological love and trust relationship with an object or event" [14, pp. 10, 17] that gives the illusion of meeting one's needs and providing intimacy. The search for comfort and pleasure outside normal human attachments results in withdrawal, isolation, and eventually the totally alienating manipulation of people as objects. Addicts treat themselves in the same manner, perceiving their bodies as objects through which they can experience pleasurable moods. Because addicts are distanced and alienated from their own bodies, emotions, and intellect, they pay no attention to the high risk of death and disease that can result from abusing drugs, food, or sex. Thus the addict is an endangered and endangering person, an alienated individual whose trust in people is damaged.

Addicts need money to feed their addiction. This makes their presence in the work force inevitable. Protection against the addictive personality is also a rising critical issue in couple compatibility since truly intimate relationships are impossible for addicts, who, as Nakken has pointed out, "stay trapped in the adolescent stage" [14, p. 16], confusing intensity with intimacy and simply following their own emotional impulses at whatever cost to people around them. Because they often fail to satisfy their emotional needs, depression and suicidal tendencies are common among addicts. Since addicts mask and deny their addiction, this creates significant impediments to diagnosis and effective therapy.

While it is difficult to say exactly what contributing factors lead to the development of an addictive personality, many causes have been suggested. Some persons are more sus-

ceptible to addiction. Growing up in a dysfunctional family, genetic makeup, and/or emotional instabilities are major factors. Death of or separation from a loved one, feelings of shame or guilt, and parental neglect also play a significant role in teaching mistrust and an inability to connect with others. Traumatic transitions (such as adolescence to adulthood or severe illness) and a lack of consistent support and nurturing in childhood result in an inability to have sufficient inner resources to deal with the ups and downs of life. Another suspected cause is a deficiency of endorphins, a substance found in the brain with analgesic properties that helps the body deal with pain [5, p. 340]. There is some speculation that chronic underproduction of the endorphins may lead to using narcotic drugs to compensate. Even more recently, as Robert Myers reports in the *Medical Times*, February 1989, biochemists have isolated "THIQ" (tetrahydroisoquinolines) which attaches itself to the brain of alcoholics and drug addicts and creates a craving for more. It is difficult to say which contributing factors lead to the development of an addictive personality. The level of detail required to state every combination of causes would be as numerous and as unique as each individual.

Whatever the reason, the addictive personality seeks comfort and mood changes through abnormal attachments to substances and objects. In acting out, "the addict feels a sense of control over his life. This helps to counteract the total sense of powerlessness the addict is feeling on a deeper, more personal level" [14, p. 14]. As described by Nakken, addiction is a progressive disease that can be thought of as a movement through three consecutive stages.

FIRST STAGE

The first stage of "the journey starts with the person experiencing the High, the mood change" [14, p. 20]. The intensity of the high is often mistaken for relief, intimacy, self-esteem, and social comfort connected to some void. This kind of nurturing by avoidance becomes the addict's unnatural method of fulfilling an emotional need. The inevitable result is drug dependence. The more loss of self-control and self-esteem, the greater the sense of shame and need to justify the addictive relationship. This is the first cost the addict pays for relinquishing Self to the Addictive Personality.

As the addiction gains strength, the drug begins to cause the very thing it was intended to avoid—pain. This leads to a deepening denial and self-abasement. After time, the Self starts to question more and more the pathological relationship it is having with the Addict and its addiction. The person starts to develop a delusional addictive logic in an attempt to cope with the changes within. "Addictive logic denies the presence of the addiction. The person comes to believe that the problem exists elsewhere or is too big to overcome" [14, p. 33]. According to this distorted logic it is all right to hurt one's Self because the Self is not important. Only the mood change counts.

SECOND STAGE

It is not until *the second stage* that detection becomes more probable because the addiction is apparent. According to Nakken, the second-stage addict is preoccupied with the object or event to the extent that others begin to sense the presence of an addictive personality. Behavior becomes ritualistic and progressively out of control. Commitment to the addictive process manifests itself in five characteristic ways: (1) lying; (2) blaming others; (3) withdrawing into a secret addictive world; (4) exhibiting behavioral loss of control; (5) experiencing the shame-induced tension that comes from having chosen addiction.

In stage two the addict faces increasing problems with family and friends. The more he acts out to release tension, the more noticeable his negative behavior. Since the addict now has to lie and manipulate to conceal his addiction, he becomes trapped in a cycle of shame that induces first tension, then the need for relief that results in "acting out" (engaging in addictive behavior) again. Thus the struggle to control the addiction becomes an oppressive drain on energy, eventually sapping all ability to function as a "normal" human being.

THIRD STAGE

In *stage three* the addict starts to break down under the tremendous stress caused by ever-increasing pain, anger, fear, shame, and loneliness. At this critical point, acting out no longer produces much pleasure. The pain is too great to escape by a simple mood change, and as a result the addict's behavior becomes extreme. As coping skills break down, unresolved feelings may erupt in weeping, hysteria, or rage. Believing that the whole world has turned against him, the addict frequently becomes paranoid. This, of course, is augmented by the drug itself. Now that he is at last sensitive to the life-threatening aspects of the addiction, he fears being left alone and clings to any remaining friend or family member who has not abandoned him. But this adds to the internal conflict since the addict wants to be alone. By this time the addict may also have run into deep financial, family, employment, and legal problems. Typically, the third-stage addict is a broken physical body carrying a wounded psychological system whose sustained damage is very hard to calculate.

According to Nakken, once the "addictive promise of relief" stops working, "the Self wants to end the addictive relationship at all costs—to the point of performing a homicidal act against the Addict" [14, p. 61]. Clearly some intervention is needed to allay the inevitable tragedy of suicide. This intervention can come in many forms: the courts, the medical system, family, or friends. Whatever its form, it usually takes drastic measures to convince the addict he needs help. It is hoped that by establishing the handwriting profile of the addict, the graphologist will be able to assist in affirming a diagnosis of the disease in the first and second stages before the most drastic measures are necessary. Early diagnosis would clearly facilitate early entry into a recovery program.

LONGITUDINAL STUDY

I have focused my own research on the chemically dependent teenager. Not only are teenagers at tremendous risk in our society, but because their behavior often includes hostility, emotional insecurity, baffling or alienating behavior, and acting out of all kinds, identifying addiction in this population is extremely difficult. Drug addiction can literally tear a family apart. And for this reason it is rightly called a family disease.

The following study is a case history of H, a right-handed male addicted to cocaine. Samples were obtained from age nine to his twentieth year. Using Nakken's three stages of addiction as a measure of the progressive disease, the samples are best seen in the Gestalt.

SAMPLES AND CASE HISTORY

H, age 9 years, 1978

At nine, H started to have serious problems at school. His teacher complained that H was overactive and anxious. He repeatedly looked inside his desk for various items. She stated that he was unorganized, unprepared and disruptive in class. He often was picked on and had fights with bullies resulting in his fear of going to school. Frequently, he would sneak home from school and hide under the bed or in the garage. The school insisted on him being tested.

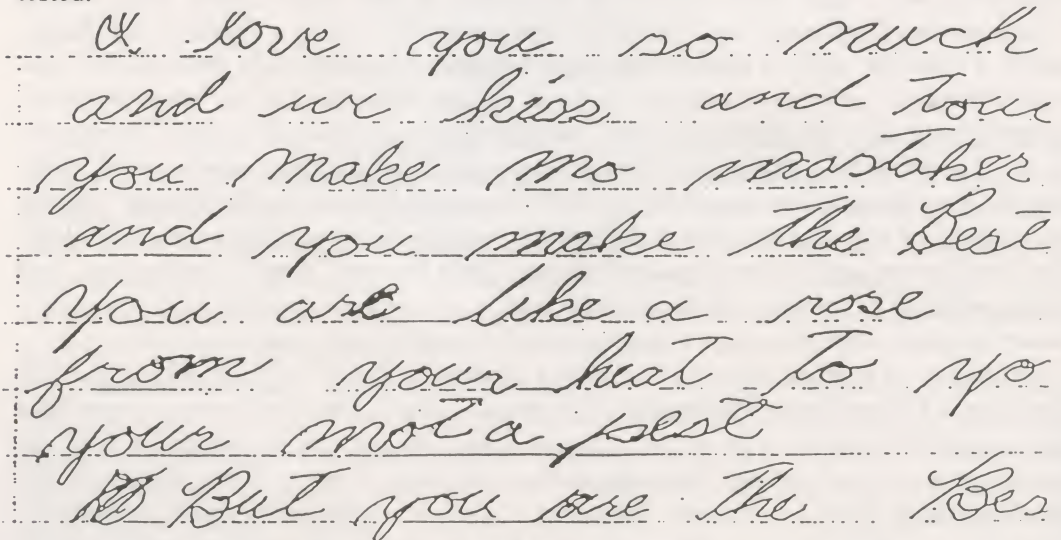


Figure 1 (age 9). Writer shows tension in the shaky strokes (kiss) but is slow and over-controlled, including retracing. Cross-outs suggest insecurity. High t-bars indicate fantasy and a learning disability is present, as indicated by n/m inversion. The words "much" and "touch" were written for the sake of rhyme only. Abuse was nonexistent.

H, age 10 years

H was tested and diagnosed as having a learning disability that prevented him from functioning in a normal classroom setting. Because his intelligence and performance were not parallel it was suggested that he be sent to a highly structured boarding school that dealt primarily with Learning Disabled students. Testing professionals felt that success with his grades plus a structured environment would be beneficial to H and enhance his poor self-image. H rejected such plans and fought going. He became angry and fearful. He was afraid to leave home and deal with people and places he was not familiar with. Eventually he was sent away but became distant and withdrawn. The transition was traumatic.

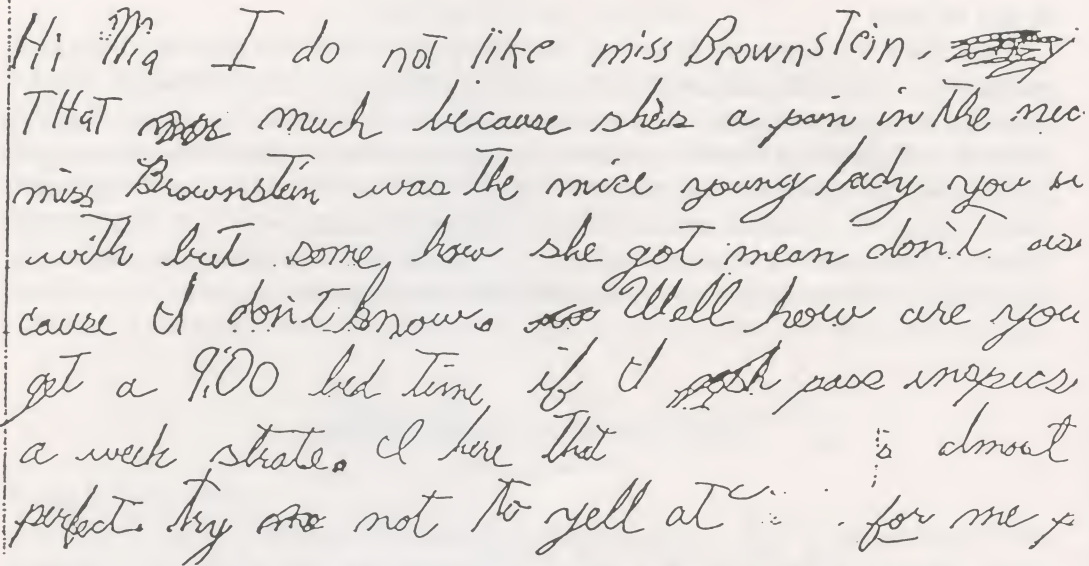
from . . . To Mom

I love you so much
 cause you got the touch
 you are so nice and bright
 and up with the sun and light
 and are pretty cause you don't f
 and don't think I hate you
 cause you know that's not true

Figure 2 (age 10). Now showing more emotional turmoil, the writer is fighting terrible depression and anger, noted by the cannon-ball period. Ambivalent love-hate feelings are shown in sudden bursts of pressure, erratic baseline. When feeling rejected, the writing becomes smaller and begins to slant downward. His unstable self-esteem is seen in the decreasing capital *I*. His only happiness emerges when he talks about his love for his mother in the last line, where the writing attempts an upward turn.

H, age 11 years

H has been living at the boarding school and is unhappy. As the experts predicted he was doing very well scholastically but emotionally H was sad and lonely. He was very homesick and wanted to be with his family. He felt abandoned and punished for having a learning problem. As a result his self-esteem was not boosted, but rather he learned to put up a front to conceal his real hurts and insecurities.



Hi Ma I do not like miss Brownstein. ~~very~~
 That ~~was~~ much because shes a pain in the neck
 miss Brownstein was the nice young lady you see
 with but some how she got mean don't see
 cause I don't know. ~~no~~ Well how are you
 get a 9:00 bed time if I ~~ask~~ pass inspection
 a week state. I here that ~~is~~ almost
 perfect. Try ~~no~~ not to yell at ~~me~~ for me

Figure 3 (age 11). The writing here illustrates the trauma of the separation that has affected this child. His neediness appears in the leftward-tending lower-zone ovals. His feelings have been crushed (stunted lower zone, squeezed letter forms, and broken backs) and he wants nurturing. M/n inversions are still there. Guilt now begins to mix with anger, as in the muddy corrections, extreme cross-outs, and retracing.

H, age 13-16 years (no samples obtained, just background)

H returned from boarding school at 13 upon his insistence and his mother's approval and was allowed to enter a public high school. Within six months he failed all subjects and started missing classes. He began smoking marijuana and eventually drinking beer. He was pulled out and placed in a local private school for the learning disabled that had been recently constructed. His grades improved at first but he became increasingly harder to handle as his substance abuse continued. At 16 he barely graduated. He had no plans to go to college and wanted some time off.

H, age 16-17 years

At the time of this writing H was having major problems at home. His behavior was out of control and disruptive to the family. His parents suspected his drug abuse and H was confronted. Outrage and denial were his responses. He blamed his parents for sending him away and for his behavior, causing guilt and creating internal conflicts in the family. H's father responded with rejection which further alienated H. His mother struggled to be the peacemaker but was caught in the crossfire. Finally H was sent away against his will to a rehabilitation center for evaluation. At the center he refused all tests and succeeded in hiding his drug addiction by creating a smokescreen of using the now internal conflicts at

Dear Dad,

YOU said you
 Didn't want to hear
 my voice or see me,
 so I wrote you a
 note. Please read it.

I don't want to
 be in a fight with
 you, I am an asshole
 for fighting with you, and
 I shouldn't have said
 anything to mommy. I want
 you to forgive me, I
 am asking you to forgive
 me, and you know how
 hard it is for me to
 say that. SO Lets just
 forget the whole thing
 and be friends.

If you agree I
 will be waiting for you
 to shake my hands and
 be father and son again.

P.S. I love you, Love

Figure 4 (age 16-17). The writer is probably well into first-stage drug use, but fighting for control, as witnessed in the occasional left-slanting, use of print script, and printed capital *I*. The spooned *e* suggests ego problems and poor self-image. His emotions have run away with him, as seen in the flying t-bars, tangling of zones, and uneven pressure. The writing is oversized, runaway, hectic, and chaotic, with too much spacing between words, indicating a progressive isolation.

every thing around.
 So when I come
 Home I'm going
 To Be A. better
~~person~~ person, or AT
 least I'll try my
 best. So Love
 Always!

Be Home
 Tonight.
 early or
 I'll call

LOVE

Notables
 Dear Mom, Dad, and
 I
 I Love you
 People very much
 so much I can't
 explain it. I
 Don't want to go
 in fights, and I
 gets me mad, or up
 when you don't want
 to be near me.
 I want to change

Figure 5 (age 17). Feelings of isolation have accelerated, noted by the large spacing between lines and words. There is still anger in the bullet periods and cross-outs. He can't get over the rejection that he himself is causing. He therefore attempts to gain control and come back into the family. This writing, though immature and childlike (outlined word *love* which shows imitation), is less chaotic and confused than Fig. 4.

home as the real problem. He was sent home after two weeks and family counseling was recommended.

H, age 17 years (deep into the first stage of addiction)

H was drinking more beer now and started using cocaine which he denied. He was caught between the conflict of wanting the love of his family and the effects of the drug. He would like to have both but his behavior made that impossible. The more he used the more he acted out. The more he acted out the more his family rejected him. The more his family rejected him the more angry he became and the more he used. Verbal fights happened daily and often he punched walls and broke household items. He lied to conceal his using and was extremely defensive. The family was torn apart as he blamed everyone else but himself. Because of the violence his father wanted him out of the house. In desperation his mother took him to a Crisis Center for two weeks, but because H was so clever the outcome was the same as the previous rehabilitation center.

H, age 18 years (starting Stage Two of addiction)

The physiological addiction to cocaine has progressed. His feelings of isolation and rejection are pronounced. Family therapy did not help. H would not sit through a session. He is suffering from short-term memory loss and severe low self-esteem. His parents sent him away to college as he requested but he failed every subject. His relationship with his father deteriorated to contempt while his mother tried to overcompensate. He was hyper and irritable. H constantly asked for money, broke promises, and was totally irresponsible. He denied any drug use and continued to blame his family. When confronted he became hysterical. He was uncomfortable to be around and family members were fearful of upsetting him and of his outbursts.

May 16, 1988

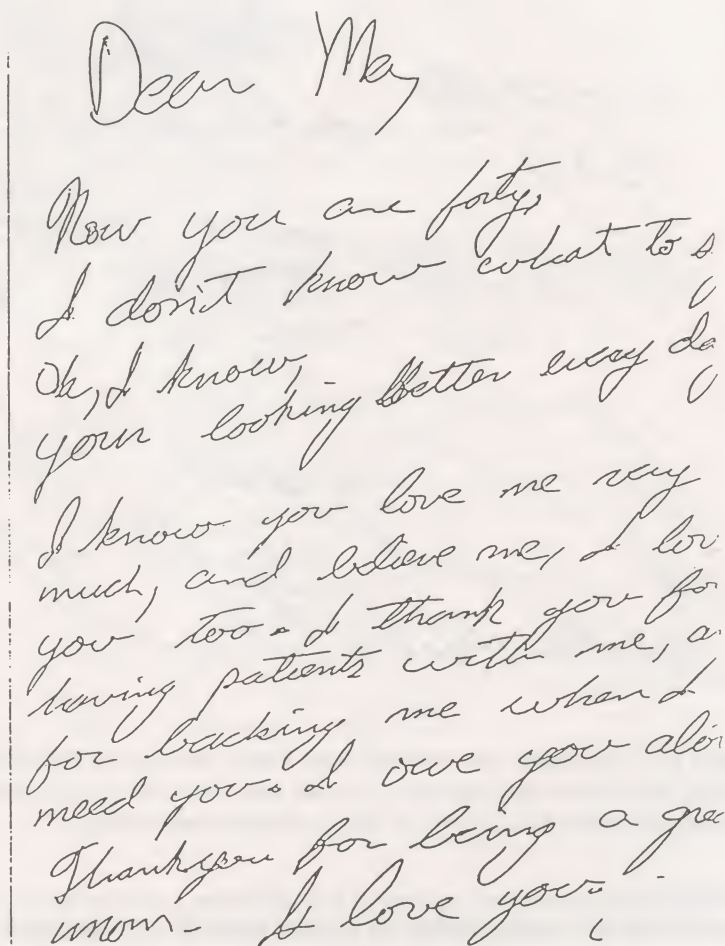
Please tell me why I stop
to gaze everytime I see
the quick brown fox jump
over the brown lazy dog

I wish my mother
would my mother would
give me money and wouldn't
make me up to make me

Figure 6 (age 18). Writing shows evidence of neurological problems and muscular difficulties, as evidenced in jerky movements (*to* in line 2). He is having more trouble controlling the pen. The writing shows threading and tremors. Short-term memory loss is illustrated in the repetition of words. Isolation continues to be apparent in the spacing, and there are ticks, and a fusion of roundness and angularity that shows conflicted emotions. His tremendous need for sensations is illustrated in the inflated lower zones. These disturbances place the sample at the start of stage-two addiction.

H, age 18½ years (deep into second stage)

H had been thrown out by his father because of his intolerable behavior. His mother put him up in a motel but he wanted to come home. He wrote out a contract, made various promises and tried to reform. At the time of this writing he had returned home, had gotten a job, and tried desperately to be accepted. But H succeeded only in setting himself up for failure again because he continued to deny the power of his addiction.



Dear May

Now you are fat,
I don't know what to do
Oh, I know, - better every day
your looking better every day

I know you love me very
much, and believe me, I love
you too. I thank you for
having patients with me, and
for backing me when I
need you. I owe you a lot.

Thank you for being a good
mom - I love you.

Figure 7 (age 18½). In speaking to his mother the upward slant indicates his continued affection. The rounded writing is softer than in Fig. 6. The childlike quality is still predominant, as witnessed in the capitals. While he is trying to appear better than he is, all of the same symptoms of disturbance are still present.

H, age 19 years (entering third stage)

H disappeared for four days and lost his job. He was out of control. He tried again to make promises but no one would believe him. It was impossible to make conversation with him. H was not functioning on any level. His father wanted him out of the house again and his mother forced him into another rehabilitation center. H still denied any drug problem and refused to cooperate at the center even though they confirmed his addiction.

Promises ~~etc~~ May 2, 1988
 I will never Gamble
 AGAIN
 I will never Hack
 my jewelry again
 A' S
 I will get fed
 I will get cp
 reasonable here

Figure 8 (age 19). The writer had entered Stage Three. His serious disturbances are manifest in his inability to concentrate, maintain control, and form words. The recent use of drugs is apparent from the severe breakdown in this hysterical handwriting.

H, age 19 years

At the rehabilitation center H felt he needed no help and was merely buying time to please his mother. He tried to outsmart everyone. He went through the motions in an effort to get out sooner but the therapist was aware of it. After three weeks, H with only a suitcase of belongings was thrown out for misconduct. He was deep in withdrawal and full of anger and fear. Instead of asking for another chance, H ran. Since his father had forbidden him to come home, he took a train and managed to get his car out of a garage. H was then

missing for five weeks. By accident, his demolished car was found by his mother wrapped around a tree. The following writing was found in the wreck. H, unhurt, called his mother and resurfaced a few weeks later. She placed him in another rehabilitation program.

His mother informed me that "Bob," the name he gave to his drug of choice—cocaine, was also the name of his childhood imaginary friend.

Very Depressed + Lonely
Isolated.

BoB = Drug of Choice.

First me and ~~and~~ a whole
mess of people were hanging
out, and we meet BoB.

As us and BoB stayed
together longer, a few friends
started to disappear. Then as
time went on BoB became a
good friend, and only 3 or 4
of us were hanging out with
BoB. Then BoB got my phone #
and it was just me and BoB,
BoB and I. I forgot everyone's
phone # except BoB's.

Figure 9 (age 19). Written from a rehabilitation program, the writing talks about the addiction on a physical, emotional, and spiritual level. The writing shows the deterioration of Stage Three with some attempts at control. He has reestablished a baseline; the size of the lettering has come down; the letter formations are printed more slowly. He is trying to function with enormous disabilities. He is still in a critical stage and is extremely problematic. Capitals appear in the middle of a word, revealing his anger and heightened temper. He is still too disturbed to absorb therapy and come to terms with his internal conflicts.

H, age 20 years

At the time of this writing H had been in a rehabilitation center for nine months. He was allowed only one visit from his mother. The program was extremely structured and excessive discipline was used to keep him in line. They shaved his head on several occasions. Although he had strong feelings of suppression, H received security and a sense of needed control over his life. He worked at a job and started to build a better self-image in spite of the rigid routine imposed on him. Calmer and with an improved sense of self, two months later, H rebelled against harsh and unfair punishment and ran away. He called his mother from a pay phone and told her that he was dying emotionally from their cruel treatment and begged for another chance. The next day H finally went home.

Like him.

The weather is always nice here.
 IT REMAINS at a constant 72 degrees. Now that
 I work outside all of the time my job is pretty
 good. The beach is right on a beach, it yes is
 is a black sand beach, but the water is polluted
 so no one goes to the beach. I go to the beach
 some times, but not to often, you see, work not
 on a vacation here.

I know your pretty upset with me
 well you got to hand it to me, when I fuck up,
 I fuck up. I really got into a jam this time, but
 it will all be over before we know it. I'll be home
 but me tell you about the program, ok

Figure 10 (age 20). After nine months of rehabilitation the writing appears extremely over-controlled. He is now out of Stage Three and in recovery. He is capable of concentrating, as manifest in his legible, small print. His intelligence has now had a chance to surface but shows an enforced control that seems robotic. Emotionally, he is still a crushed little boy but he is dealing with his addiction. Spacing is better, rightward slant is calmer but still running at a slower speed. He is trying desperately, using all of his resources.

CONCLUSION

This longitudinal study reveals the Gestalt of the three stages of drug addiction. From this overview it is possible to see the transition from a troubled childhood to the development of a drug-dependent individual. Furthermore, as the stages progress, certain objective characteristics are apparent beginning with a learning disability, depression, and emotional trauma, which lead to regression, inhibitions, anger, and dependent behavior conducive to addiction. When the drug addiction is dominant motor control is affected, emotions and anger are out of control. These characteristics translated into graphics include: weakened lower zones, depressed base line, cannon-ball periods, retracing, hectic script, large spacing between words, distortion of the capital I, tremors, neglected or wild letter formations, crossouts, and patching. During attempts at recovery, rigidity expresses itself in mechanical overcontrolled printscript.

Based upon an analysis of twenty-five samples from additional known drug addicts, I have been able to isolate 65 common graphic characteristics. In part 2 of this study I will define and discuss these graphic characteristics and present a chart system that can be used analytically as a guide to expose drug addiction in suspected handwriting.

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THE WITTLICH GRAPHOLOGICAL CHARACTER DIAGRAM

OR SCHEMATIC GRAPHOLOGY

Elizabeth Semler-Delmar

ABSTRACT: Dr. Bernhard Wittlich's design allows the graphologist to advance from a specimen of handwriting through a worksheet, a synthesizer (scoring page), on to a character diagram. The meaning of each of the twelve radiating spokes in the round diagram is interpreted as it relates to human behavior. The resulting profile becomes a living representation of the writer's behavior.

The "Graphological Character Diagram" was designed and the text written by Doctor of Philosophy, Bernhard Wittlich, University of Kiel, Germany. Although Dr. Wittlich revised his system continuously, the revisions remained unpublished until after his death. Renate Kummel, his daughter, updated the protocol and brought his work to the forefront again.

A systematic process is followed with each handwritten specimen. Observations drawn from a sample of handwriting are separated, recorded, and synthesized with the help of an evaluation table, then entered on to the character diagram.

Criteria are measured or rated, and decisions are marked with a check or a dot down the center of the WORKSHEET (the 7-point scale). These symbols are extended to the right edge of the WORKSHEET, and matched with symbols under thirteen columns on the SYNTHESIZER PAGE. Scores found on the COUNTING TABLE OF EVALUATION, the plus or minus factors, are totaled and entered on the DIAGRAM.

Upon observing the completed Diagram, it would seem that a round profile containing twelve spokes cannot tell much about the character of a person. Yet each spoke is a synthesis of many signs. After it is learned that each indicates an essential personality characteristic, and is not considered alone, a new light of understanding arises.

The balance or lack of balance between opposite spokes also reveals personality characteristics. Weighing the left half of the diagram against the right, as well as comparing the sum of the upper half against the lower, points to important information regarding the attitude and direction of interests of the writer.

For personnel purposes this system allows a dependable, visible comparison of two or more people. Compatibility of relationships can be studied through comparisons of character profiles. Growth, decline or the effect of traumatic experiences are revealed when two samples, written by the same person after a lapse of time, are reduced to diagrams, then interpreted and compared.

An alternate word for diagrammatic is schematic. Schema points toward a framework for a systematic recording of data, and reveals the interrelationship of that data. The Wittlich

approach to the analysis of handwriting uses a framework where one step follows another into a series of steps which establishes or activates a pattern, or schema.

WORKSHEET (Figure 1)

Before beginning an analysis, the name, age, sex, and right- or left-handedness of the writer is recorded across the top of the worksheet, as well as the date of the analysis. These factors are necessary for identification purposes and may be needed for future use. Conclusions may be reviewed, or it may be necessary to compare findings about the same person after a period of time has elapsed.

Knowing "age" is critical for an authentic comprehension of the writer. For instance, if traces of tremor in the strokes which form the letters are found in a specimen written by an elderly person, symptoms of aging are an important factor in understanding the person who wrote. If tremors appear in the strokes written by a youth, weakness in the nervous system caused by an illness or recent trauma must be understood and included in the summary.

The majority of people are right-handed writers. Left-handed writers encounter complications since their normal mode of writing is opposite the right-handed writers. In actual practice, the basic principles of graphological interpretation generally prove dependable when analyzing a left-handed person. Certain judgments are modified.

The worksheet is divided into three sections. The first third records the rhythm of the MOVEMENT, the second third relates to the quality of FORM, and the remaining third registers the SPACE picture.

Thirty-four criteria and thirty-four polarities (altogether sixty-eight) are considered one by one. How does each sign differ from school form or from one another? Are they clearly seen? Place a check mark under column 1 on the worksheet. Or, are they emphasized? Under 2. Over emphasized? Place a check under 3. If missing from this sample place a dot in the center space which divides the scale, the 7th point. School form criteria are also marked with a dot in the center space. Are opposing signs also present? If so, clearly seen, a check is also placed in the opposite column under 1. If an opposite sign is present but not strong enough to be recorded as clearly seen, a dot is placed under column 1 on the opposing side. Recording graphological signs on to this worksheet allows these handwriting criteria to be systematically registered.

Once this system of measuring, rating, and recording observations drawn from the handwritten specimen is mastered it becomes automatic and speedily executed.

Signs found on the left side of the WORKSHEET, under the + (cross sign), deal with writing movements which are expansive. Those signs found on the right side, under the o (circle sign), deal with the writer's contracting movements. In most graphological systems, signs of contraction and release are found on the opposite side of worksheets, release = right side, and contraction = left. Dr. Wittlich adjusts his symbols on the synthesizer page so that

GRAPHOLOGICAL WORKSHEET FOR _____

Age _____ Sex _____ Hand _____ Date _____ OCCUPATION _____

Expansion		+ 0		Contraction	
		3 2 1	1 2 3		
1a Vibrating _____				Rigid _____	
1b Swinging _____				Slack _____	
1c Smooth Stroke _____				Disturbed Stroke _____	
2. Fast _____				Slow _____	
3. Hasty _____				Not Hasty _____	
4. Curved Letters _____				Straight Letters _____	
5. Pressure _____				Lack of Pressure _____	
6. Pasty _____				Sharp _____	
7. Connected _____				Un-Connected _____	
8. Rightward Trend _____				Left Trend _____	
9. Counter Clockwise Motion _____				Clockwise Motion _____	
10. Regularity _____				Irregularity _____	
11. Centrifugal (Center Avoiding) _____				Centripetal (Center Attracted) _____	
12. Good Form Level _____				Poor Form Level _____	
13. Full Forms _____				Meager Forms _____	
14. Complex Strokes _____				Single Strokes _____	
15. Enriched _____				Simplified _____	
16. Garland _____				Arcade _____	
17. Thread _____				Angle _____	
18. Stylized _____				Copybook Writing _____	
19. Uniform Shape of Letters _____				Non-Uniform Shapes of Letters _____	
20. Skillful Connections _____				Clumsy Connections _____	
21. Harmonious Space Picture _____				Inharmonious Space Picture _____	
22. Excessive Vertical Extensions _____				Slight Vertical Extensions _____	
23. Upper Zone Emphasis _____				Lower Zone Emphasis _____	
24. High Middle Zone _____				Low Middle Zone _____	
25. Broad Letters _____				Narrow Letters _____	
26. Large Space Between Letters _____				Small Space Between Letters _____	
27. Word Beginnings Emphasized _____				Word Beginnings Minimized _____	
28. Word Endings Emphasized _____				Word Endings Minimized _____	
29. Large Writing _____				Small Writing _____	
30. Right Slant _____				Vertical or Left Slant _____	
31. Large Space Between Words _____				Small Space Between Words _____	
32. Large Space Between Lines _____				Small Space Between Lines _____	

Figure 1. Worksheet.

when scores are entered on to the diagram they are entered on the proper side, and are interpreted in a psychologically accepted manner. Expansion (right half of diagram) relates to the writer's attitude and those interests which are aimed at the outer world toward people and objects—extraversion. Contraction (left half of diagram) relates to an emphasis on the ego, the writer's attitude toward the self, his or her inner world—introversion.

Dr. Wittlich's schema results in a variation of cross and circle symbols. It is important to remember that "+" does not signify a positive connotation. Nor does "o" represent anything negative. The cross and circle simply identify and record signs found under the contraction or release side of the worksheet.

EXAMPLES

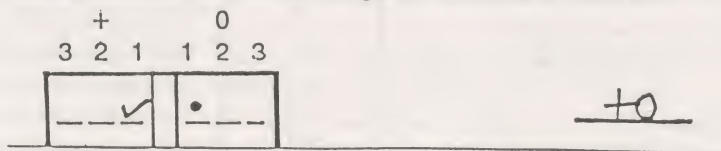
When analyzing handwriting we may clearly see a sign. For example (#30 on WORK-SHEET) we clearly see a right slant written at a consistent angle throughout the whole page. Mark it thus:



In another specimen we clearly see a right slant and yet almost half of the writing reveals a leftward slant. This is a variation (changing from one to another). When the writer uses both right and left slant in equal proportions both are credited. The cross side and circle side are both checked, recording a regular variation.



A right slant may be clearly seen throughout most of the sample and yet there are several instances where a left slant is used. To credit the occasional sign, a dot is placed on the side in which it belongs. In this manner an irregular variation is recorded.




VARIATIONS—REGULAR AND IRREGULAR (A Method for Recording the Rhythmic Pattern)

In the following examples, #31 on the WORKSHEET is used because it offers a simple example for recording the rhythmic pattern of regular and irregular variations.

In—a—sample-of-writing—you—may-find-a—pattern—in—the-size-of—space—between—words—similar-to-this—almost-all-through—the-writing.

Counting the spaces, 12 show large spaces between words and 12 show small spaces, equal on both the cross and circle sides.



Record It Thus (Regular Variation):

| _ _ ✓ | | ✓ _ _ |  or 

In—a—sample-of-writing—you—may-find-a—pattern—in—the-size-of—space—between-words-similar—to-this-almost—all-through-the—writing.

Large spaces between words are emphasized 10 times, and small spaces between words are clearly seen 11 times.

Record It Thus (Regular Variation):

| _ ✓ _ | | ✓ _ _ |  or 

On the other hand an IRREGULAR VARIATION which depicts a disturbance in the rhythm is noted and recorded in the following manner.

In—a—sample—of—writing-you—may—find—a-pattern—in-the-size—of-space—similar—to—this.

Large space between words is clearly seen 12 times, while small spaces are noted 4 times.

Record It Thus (Irregular Variation):

| _ _ ✓ | | • _ _ |  or 

Forked figures, symbols joined with an arrow >, record a regular variation. If criteria are checked on both sides of the center column, because 50% of the writing criteria is found to be under the released side and the remaining 50% contains criteria which signify contrac-

WORKSHEET SYMBOLS - THEIR MEANING

+	Clearly seen--under the cross column 1.	
++	Emphasized--under the cross side - column 2.	
+++	Overemphasized--under the cross side - column 3.	
○	Clearly seen--under the circle column 1.	
○○	Emphasized--under the circle side - column 2.	
○○○	Overemphasized--under the circle side - column 3	
+○	○+	Clearly seen on either the cross or circle side with occasional disturbances on the opposite side.
++○	○○+	Emphasized on either the cross or circle side with occasional disturbances on the opposite side.
○×	Both sides, cross and circle clearly seen - equally.	
○○×	Cross side emphasized. Circle side clearly seen.	
○○○×	Circle side emphasized. Cross side clearly seen.	
○○○○×	Cross and circle sides emphasized, equally.	
○○○○×	Circle side emphasized, cross side overemphasized.	
○○○○×	Cross side emphasized, circle side overemphasized.	
○○○○×	Cross and circle side, both overemphasized, equally.	
+	○	1. Clearly seen.
++	○○	2. Emphasized.
+++	○○○	3. Overemphasized.
○×	○○×	Regular variation. (forked figure) Both sides equal.
○+	++○	Irregular variation.

Figure 2. Worksheet symbols—their meaning.

tion, a regular variation is entered on the worksheet. For example (#13 on the WORKSHEET), if lower-zone loops are full in form and the upper-zone letters are meager, both data are recorded equally on both sides of the worksheet. Various combinations of forked figures are possible (see Figure 2, WORKSHEET SYMBOLS—THEIR MEANING).

Irregular variations are also recorded. When one criteria is clearly seen but the opposing criteria is slightly present, an irregular variation is registered, +o, o+, ++o. As an example (#24), if most of the middle zone, when measured, is clearly seen as 4mm, but several letters (fewer than a third) are found to be less than one-half the height of the upper-zone letters, they are rated as low. Thus an irregular variation is entered, which allows almost all graphological criteria to be recorded.

Three divisions record the rhythms of MOVEMENT, FORM, and SPACE. MOVEMENT includes all those graphological signs which depict the innate attitude and level of vitality of the writer. FORM holds those signs which when correlated indicate the goals or aims of the writer, and reflect education as well as inborn talents. SPACE contains signs which reveal how the writer adjusts to his environment. These three when totaled reveal the writer's OBSERVABLE BEHAVIOR.

SYNTHESIZING (Figure 3, Synthesizer Page)

The synthesizer page is also divided into the three sections, MOVEMENT, FORM and SPACE. This page displays thirteen columns. Each represents an essential character trend which is part of the outline of a personality. These thirteen vertical columns can be likened to computerized data which contains values which add to or detract from the strength of each personality characteristic.

Twelve of these columns relate to twelve spokes on the character diagram (Figures 7 & 8). Essential character trends are: 1. VERSATILE MIND; 2. INITIATIVE; 3. CONGENIALITY; 4. PRESENTATION; 5. EMOTIONS; 6. AMBITION; 7. CONCENTRATION; 8. PERSEVERENCE; 9. SELF-CONCEPT; 10. JUDGMENT; 11. CONTROL; and 12. EFFICIENCY. The thirteenth column presents extra information through its point value which measures LACK OF INTEGRITY.

COUNTING TABLE FOR EVALUATION (Figure 4)

The simplest way to explain how values are obtained from the counting table for evaluation is to refer to the multiplication table we learned as children. The answer to three times three, nine, was found by matching the number 3 found across the top of the multiplication table with the number 3 found down the side of the table. Instead of numbers, symbols, different combinations of crosses and circles, which have been transferred to the right edge of

[illegible]

Figure 3. Synthesizer Page. Note: When a black triangle is present a minus figure is not to be entered!

[illegible]

Figure 4. Counting Table for Evaluation.

the WORKSHEET, are matched with symbols on the SYNTHESIZER PAGE. The values are then recorded.

One can see crosses, circles, irregular variations, and regular variations aligned across the top and side of the table (Figure 4). Values are found by matching the edge of the WORKSHEET along the columns on the synthesizer page. Move the edge of the WORKSHEET so that the symbols can be matched in each succeeding column. Then the designated values are entered (Figure 6).

NOTE! When a blacked in triangle is present A MINUS FIGURE IS NOT TO BE ENTERED in that space on the SYNTHESIZER PAGE (Figure 6). This simply means that the writing criteria does not apply to the particular personality characteristic found in that column.

The page titled COMPUTATION CLUES (Figure 5) offers another approach to under-

+	+	EQUALS	+1	0	+	EQUALS	-1
+	++		+2	0	++		-2
+	+++		+3	0	+++		-3
+	o		-1	0	o		+1
+	oo		-2	0	oo		+2
+	ooo		-3	0	ooo		+3
+	+o or (o+)		-1	0	+o (o+)		-1
+	+oo or (oo+)		-2	0	+oo (oo+)		-2
+	o x		+1	0	o x		+1
+	o x x		+2	0	o x x		-2
+	o x x x		+2	0	o x x x		+2
+	o x x x x		-2	0	o x x x x		+2

Figure 5. These computation clues offer a key to understanding and matching the symbols. When matching symbols found at the edge of each Worksheet with symbols across the top of the Synthesizer Page an analyst catches the clue that most matching symbols equal a plus figure and opposite symbols equal a minus. After working on several analyses, filling in the values on the Synthesizer Page becomes automatic.

WORKSHEET				SYNTHESIZER PAGE							
3	2	1	0			1.	2.	3.	4.	5.	6.
				Contraction							
				Rigid	±	+	+	+	+	+	±
				Slack	0	+	-	+	-	+	±
				Disturbed Stroke	±	0	+	+	+	+	±
				Slow	±	±	3	±	3	±	±
				Not Hasty	0	±	-	±	-	±	±
				Straight Letters	±			±	2	±	0
				Lack of Pressure	0	0	2	±	-	±	±
				Sharp	±	0	-	±	1	±	0
				Un-Connected	±	0	1	±	1	±	±
				Left Trend	±	+	1	±	2	±	±
				Clockwise Motion	±			0	-	±	-
				Irregularity	±			0		0	±
				Centripetal (Center Attracted)	0	+	-	±	-	±	±
				Poor Form Level	0	±	3	±	2	±	±
				Meager Forms	±	±	4		±	±	0
				Single Strokes	±	±	2	±	2	±	±
				Simplified	±	±	1	±	±	±	±
				Arcade	±	±	4		±	±	±
				Angle	0	±			±	±	±
				Copybook Writing	±	±			±	±	±

Example: Following down matching figures under column 1.

Symbols that agree = a plus value.

Symbols that disagree = a minus value.

Black triangles do not accept minus values.

Note: Connected writing with a sprinkling of unconnected letters, an irregular variation, contributes to a versatile mind.

The black triangle does not receive a minus value.

Worksheet shows a regular variation, a cross and circle forked figure, matched with a cross = a plus value.

Right or left trend, both contribute to a versatile mind.

Down several spaces two irregular variations = a plus value.

Figure 6. Matching Worksheet with Synthesizer Page.

standing how to recognize values that are to be recorded. See WORKSHEET SYMBOLS—THEIR MEANING (Figure 2) to understand the meaning of these symbols.

After all pertinent values, pluses and minuses, are entered on the synthesizer page, the columns are subtotaled, set down on the upper right half of the page with four diagrams, under M for Movement, F for Form, S for Space, and after each (=) equal sign, the total (Figure 7). These values are transferred on to the corresponding diagrams. The page with one large and three small diagrams reveals the observable behavior as well as the writer's inner harmony or conflicting drives.

THE CHARACTER DIAGRAM—OBSERVABLE BEHAVIOR

Inside the smallest circle in the center of the diagram resides the center of the psyche. As each spoke radiates outward, it gains in strength. The middle circle (third one in) represents average, or range of the norm. The next circle radiating outward records plus ten. The outermost circle is plus twenty. Rarely do we find writings whose strength go beyond twenty. The first circle in from average range is minus ten, the inmost circle is minus twenty. Once the totaled amounts are entered and connected, strengths and limiting factors are made visible. Opposing spokes are compared. Do they balance? If not, when more than three points apart the additional characteristic is present.

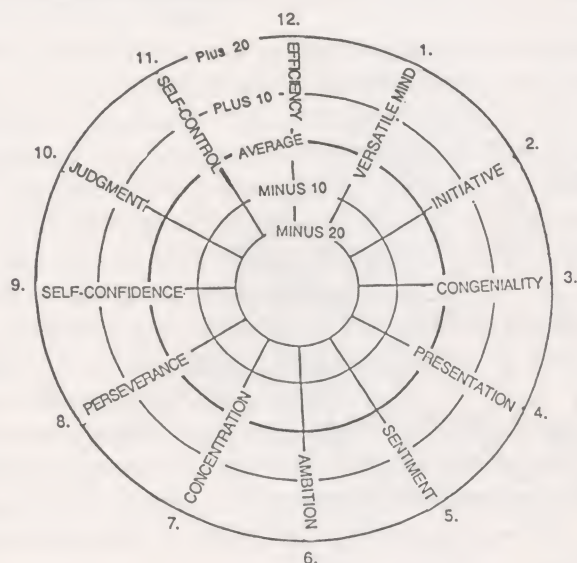
Divisions on the character diagram reveal more pertinent information. Adding $10+11+12+1+2$ indicates the strength of mind-thought and/or spirit involvement. The sum of $4+5+6+7+8$ indicates the writers concern with body and action, the follow through. And $1+2+3+4+5$ added together reveals the strength of the writer's concern with others, their outreach. The sum of $7+8+9+10+11$ reveals the writer's level of concern with self and the inner person.

The large diagram represents observable behavior. Three smaller diagrams (Figure 7), when studied and compared, suggest either inner harmony or the opposite, inner conflict.

The middle section of the four-diagram page presents additional information. Ego strength, add $12+1+2$; emotivity, $3+4+5$; firmness of intention, $6+7+8$; and control, $9+10+11$. Comparisons may be used as a summary at the close of the written interpretation. Dishonesty values are reversed to record integrity.

At first, when analyzing a specimen of writing, #13 was labeled dishonesty. A few States are contemplating legislative action against graphology because a portion of its work replaces the polygraph. It is expedient to use an alternate approach in indicating dishonesty. The value is reversed and the word integrity is entered on the final page which contains only the large diagram (Figure 8).

Three small diagrams contain the values for the MOVEMENT, FORM and SPACE pictures. These three when added together are entered on to the large diagram which outlines the writer's OBSERVABLE BEHAVIOR.



	M	F	S	
1.	—	—	—	P. —
2.	—	—	—	= —
3.	—	—	—	= —
4.	—	—	—	= —
5.	—	—	—	= —
6.	—	—	—	= —
7.	—	—	—	= —
8.	—	—	—	= —
9.	—	—	—	= —
10.	—	—	—	= —
11.	—	—	—	= —
12.	—	—	—	= —

M + F + S = Total

above Theory below Practice
left Introversia right Extrover.

12. —
1. —
2. + —
= 2go strength

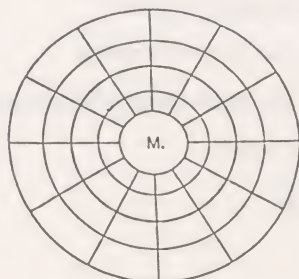
3. —
4. —
5. + —
= Enctivity

6. —
7. —
8. + —
= Firmness of Intention

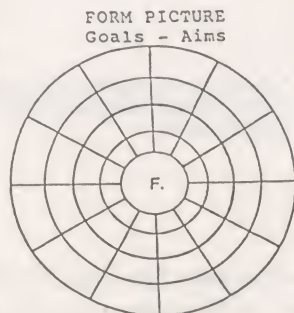
9. —
10. —
11. + —
= Control

13. M + F + S = Dishonesty

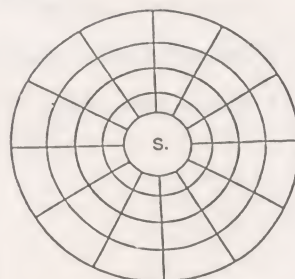
(To enter—reverse the figure from minus to plus, or plus to minus.)



MOVEMENT PICTURE
Energy - Vitality
Natural attitude in
action



FORM PICTURE
Goals - Aims



SPACE PICTURE
Adjustment to
Environment

Figure 7. Four diagrams.

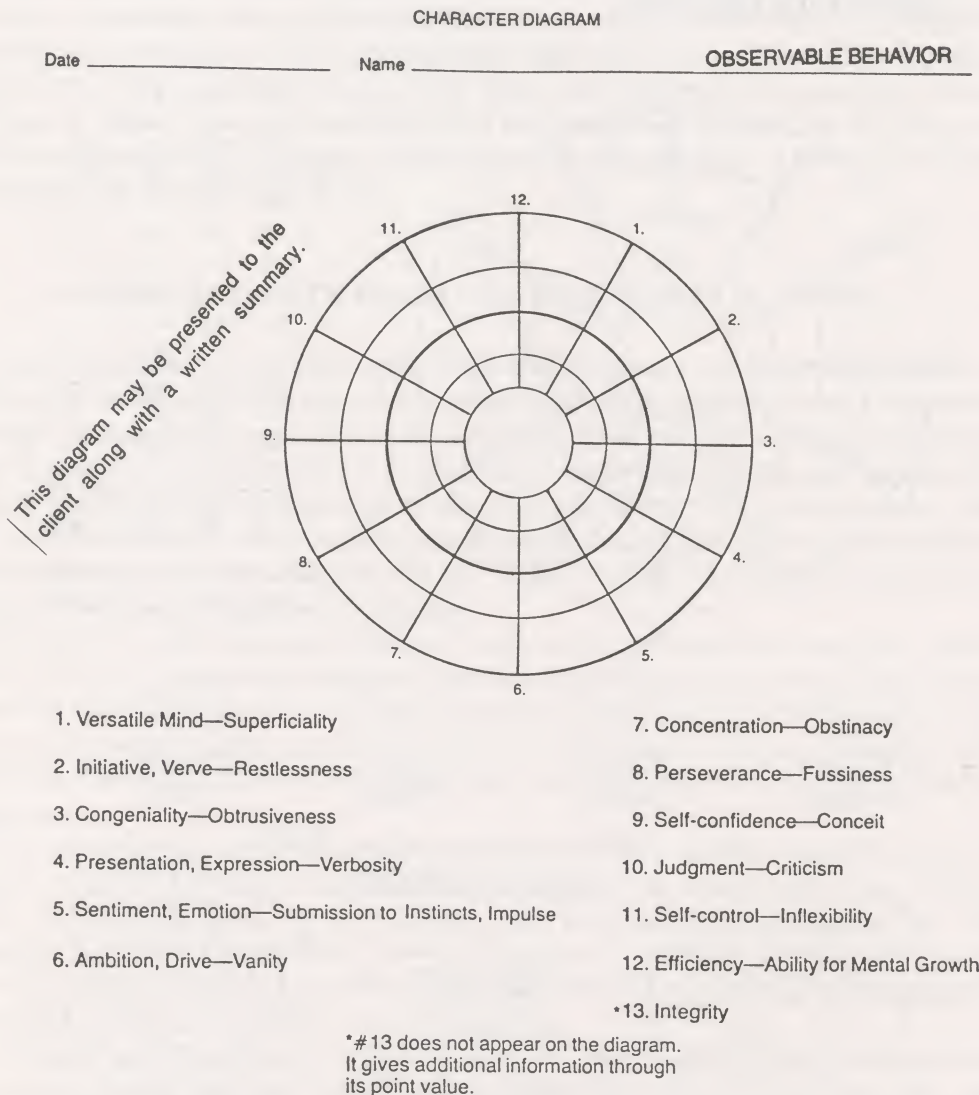


Figure 8. Character Diagram—observable behavior. NOTE: When opposite spokes are in balance the personality characteristic on the other side of the and/or does not apply. When opposing spokes differ more than three points the additional characteristic does apply to the writer's behavior.

To review, and reduce this process to a simple outline, the following is presented. Steps 1 and 2: the writing sample is studied and recorded on the WORKSHEET. Step 3: values are entered on the SYNTHESIZER PAGE, then computed. Step 4: these are set down on the Four-Diagram page. Step 5: then on to the Wittlich Character Diagram. Step 6 requires the written interpretation.

Writing an analysis based on observations of a sample of handwriting is less formidable when an outline or plan is followed. This system, or schema, affords a solid foundation for describing a personality. The meaning of the first spoke which is #1 VERSATILE MIND is considered. Is it in balance with the opposing spoke (#7)? If so, the writer's thinking pattern is explained. If #1 outweighs #7 CONCENTRATION by more than three points, the writer's thought pattern might be considered versatile, fast and superficial. This statement is verified with the handwriting. The analyst holds the diagrams and the specimen of writing side by side as the interpretation is written.

Proceeding around the diagram, #2 and #8 are considered together, on through #12 and #6, until the whole diagram has been interpreted. The synthesis can be brief and to the point, or drawn into a lengthy analysis.

The psychological principles which Dr. Wittlich applied in his text are based on those accepted by behavioral scientists. They are psychologically sound.

To quote Dr. Wittlich, "for beginners it will be too little, but for an advanced student this short text has much to offer."

Tuesday May 22nd

Dear

Got home safe and sound. Had another meal when we got to Chicago. I didn't see Schubert yet. he is in bed when I get home and in the morning I don't have time to go up. It sure is bad without a car. It takes me so long to get around. I went to your mom's for supper last night but she wasn't home so Rudy and I ate in the tavern near Quasi. Your mother however called today and I am going over for supper tonight. Red is going in.

I talked with Mr Schubert on the phone. They had trouble with her. She didn't want to stay, but after she met a few people who incidentally were from her home town things were a lot easier. Mr Schubert feels that it is his duty to stay in town because as he says, she stuck by him all these years and he don't feel it proper to leave now. He is going to visit her this Wednesday or Thursday if his rheumatism are better. He wants me to say hello to you and to tell you that he won't be up this week.

Dean was operated on Monday morning. I don't know what the story is but from reports it's not so good. When Mr Schubert went to see Fred at 6 A.M. this morning, Fred was gone. He don't know if the hospital called or what happened because he has heard from Fred.

Figure 9. L.H.'s handwriting.

GRAPHOLOGICAL WORKSHEET FOR L. H.

Age 29 Sex M Hand RT Date 5/24/41 OCCUPATION ACCOUNTANT

Expansion	+			0			Contraction
	3	2	1	1	2	3	
1a Vibrating							Rigid
1b Swinging							Slack
1c Smooth Stroke							Disturbed Stroke
2. Fast							Slow
3. Hasty							Not Hasty
4. Curved Letters							Straight Letters
5. Pressure							Lack of Pressure
6. Pasty							Sharp
7. Connected							Un-Connected
8. Rightward Trend							Left Trend
9. Counter Clockwise Motion							Clockwise Motion
10. Regularity							Irregularity
11. Centrifugal (Center Avoiding)							Centripetal (Center Attracted)
12. Good Form Level							Poor Form Level
13. Full Forms							Meager Forms
14. Complex Strokes							Single Strokes
15. Enriched							Simplified
16. Garland							Arcade
17. Thread							Angle
18. Stylized							Copybook Writing
19. Uniform Shape of Letters							Non-Uniform Shapes of Letters
20. Skillful Connections							Clumsy Connections
21. Harmonious Space Picture							Inharmonious Space Picture
22. Excessive Vertical Extensions							Slight Vertical Extensions
23. Upper Zone Emphasis							Lower Zone Emphasis
24. High Middle Zone							Low Middle Zone
25. Broad Letters							Narrow Letters
26. Large Space Between Letters							Small Space Between Letters
27. Word Beginnings Emphasized							Word Beginnings Minimized
28. Word Endings Emphasized							Word Endings Minimized
29. Large Writing							Small Writing
30. Right Slant							Vertical or Left Slant
31. Large Space Between Words							Small Space Between Words
32. Large Space Between Lines							Small Space Between Lines

Figure 10. L.H.'s Worksheet.

L. H.'S WORKSHEET (Figure 10)

It is important to note that many handwritings fall into the category "CLEARLY SEEN" under the cross or circle columns #1 on the WORKSHEET. Other specimens which exhibit EMPHASIZED criteria are marked under the #2 columns. When upon first glance a criteria "jumps out of the page" and one can safely judge it OVEREMPHASIZED (under either #3 column) a warning is sounded. Such a writing requires further study. Most of L.H.'s writing (Figure 9) falls close to CLEARLY SEEN, #1, under the cross and circle sides. Notice that Form Level and the Space Picture in his writing are emphasized. They fall under the second column. Lower zone letters are also emphasized.

Beginning at the top of the WORKSHEET 1a, 1b, & 1c are judged by looking at the gestalt, or overall picture. All remaining signs require careful scrutiny of individual aspects, and are rated against the height of middle zone letters.

1a., 1b., and 1c. DEALS WITH THE RHYTHM OF MOVEMENT.

1a. In this instance a dot is placed in the center column. The writing is neither Vibrating nor Rigid.

1b. Swinging. A check is placed under +1, cross side, clearly seen. Down and up strokes in the middle zone, especially those not taught in school form, are connected curves. Characteristic—AFFECTION, NEED TO INTERRELATE.

1c. Smooth Stroke is checked under clearly seen. The flow of ink as it is laid down on the blank sheet of paper is, in-the-main, smooth, except for occasional disturbed strokes wherein the writing trail is interrupted. Characteristic—VITALITY & A DISTURBED ENERGY FLOW.

2. Fast Writing—written in word-group-sentence impulse is not concerned with the writing process but carried along with the message. Characteristics—an ACTIVE MIND and a PROMPT RESPONSE.

3. The writing is neither Hasty nor Not Hasty. A dot is placed in the center.

4. Curved Strokes form the letters, especially in the middle zone. Characteristic—EAGERNESS.

5. & 6. Lack of Pressure. The texture of strokes are considered. L.H.'s writing lacks pressure, is neither sharp, nor pasty. Characteristic—ADAPTABILITY.

7. L.H.'s writing is Connected with an occasional Disconnect. Characteristic—LOGIC with a touch of INDUCTIVE THINKING.

8. Rightward Trend is checked. A dot is placed under Leftward Trend. Word endings prefer lengthened strokes which move to the right, and yet on occasion the forward movement is neglected. Characteristic—a mixture of GENEROSITY and ASSIMILATION.

9. Counter Clockwise Movement can be found in several "a"s, several ending strokes have hooks, and the lower zone portion of the letter "f" turns counter clockwise. Characteristic—INNER TENSION.

10. Regularity. Marking points at which the downstrokes in the middle zone meet the

baseline determines a fairly regular beat. Characteristic—GOVERNED BY THE WILL. Changes in slant suggests an irregular variation. On occasion emotions influence the will.

11. Centrifugal—(Center Avoiding). The middle zone is outweighed by dominant upper and lower zone components. Characteristic—LESS EGOCENTRIC. (If this had been a large middle zone handwriting a check would have been placed on the center attracted, circle side.)

THIS SECTION (12 to 20) RATES THE LEVEL OF FORM.

12. Form Level, emphasized, +2. This writing is legible, is changed from school form, is uncomplicated and original, words when taken out of context can be read, and the writing is recognizable. The level of form is good. Characteristic—CREATIVE, AUTONOMOUS. (Had this writing had poor form level, a check would have been placed on the circle side.)

13. Full Forms and Meager Forms are both checked. They are clearly seen under both the cross and circle sides. A regular variation is recorded. Full Forms are found in the lower zone and scattered in the upper zone. Meager Forms are found in the upper zone and scattered in the middle zone. Widths are compared to the height of the middle zone. Characteristic—IMAGINATION, FANTASY and CRITICALNESS and SOBRIETY.

14. Complex Strokes display a rhythmical exchange of up and down strokes. This writing is written with a loosely gripped pen, connections are mainly garland with soft angles. The message is more important than concentrating on each stroke. Characteristic—NATURAL, COMFORTABLE.

15. Simplified. Many lead-in strokes are eliminated without disturbing the legibility of the writing. Characteristic—PURPOSE, DIRECT APPROACH. (Other lead-in strokes are taught in school form; they are not recorded.)

16. Garlands are checked under +1 because they're found where they are not taught, in m's and n's. Characteristic—NATURAL, COMFORTABLE. Arcades are seen occasionally in softened s's and t bars. Meaning—Occasional RESERVE, FORMALITY.

17. It is necessary to record the threads which are found in several word endings. Characteristic—VERSATILE.

18. This writing is neither Stylized (ornate) nor Copybook. A dot is placed in the middle column.

19. Uniform Shape of Letters. There is a constancy in letters forms, but occasionally one can note that the r's and s's and lower zone forms vary in shape (not size). Characteristic—LOYALTY TO PRINCIPLES, with a sprinkling of EXPEDIENCY.

20. Neither Skillful Connections (one stroke tied to another in a skillful manner) nor Clumsy Connections (those that are stiff and do not flow) are present. A dot in the middle column.

THIS LAST SECTION (21 to 32) DEALS WITH RATING THE SPACE PICTURE.

21. A Harmoneous Space Arrangement is evident by the balanced use of space, check emphasized +2. Characteristic—VERSATILE, WELL-ADJUSTED.

22. Excessive Vertical Extensions are apparent. The upper and lower zone extensions

exceed two and one-half times the height of the middle zone. Characteristic—AMBITION. (22 & 23 combine lower zone information.)

23. Lower Zone Emphasis, o2. The lower zone is wider and longer than the upper zone. Characteristic—MATERIAL INTERESTS, LIBIDO. (If the lower zone had intruded into the middle zone of the following line a check would have been placed under the third circle column, o3.)

24. Low Middle Zone. The middle zone letters are less than one-half the height of the letters d and t. Characteristic—MODESTY.

25. Broad Letters. Letters that are wider across than the height of the middle zone are broad. Characteristic—CANDOR.

26. Large Space Between Letters is found when that space is wider than one-half of the width of the middle zone letters. Characteristic—ZEAL. Occasional Small Space Between Letters can be found. Characteristic—a sprinkling of CAUTION.

27. Word Beginnings are neither emphasized or minimized. A dot is placed in the center column.

28. Word Endings Minimized. Often the words end in a flattened thread. Characteristic—TACT, YIELDINGNESS. (Knowing when to avoid giving offense.)

29. Small Writing. When considering the size of the page this writing can be rated small. Characteristic—CONCENTRATION, SOBRIETY.

30. Verticle or Left Slant. Clearly seen. Characteristic—DETACHMENT.

31. Space Between Words is neither large nor small when considering the width of the middle zone letter “m.” A dot is placed in the center.

32. Small Space between Lines. This decision is debatable, but giving thoughtful attention to the long lower and upper extensions, it has been checked clearly seen.

Note: When the sample of handwriting is mainly school form, many dots will be marked down the center column, not under the cross or circle scale.

OBSERVATIONS DRAWN FROM THE HANDWRITING OF L. H.

#1 & #7: This writer is endowed with an intellect that is capable of handling a variety of interests with ease. He thinks clearly and is mentally active. His logical pattern of thought calls for correctness and validity. He connects what has been to what is, and what they both mean to the future. His thinking is fast paced. The will to concentrate is less than range of the norm. He can skim over the surface of some subjects in a superficial manner, and yet is capable of deep intellectual effort. There is also an intuitive bent. Ideas occur without any process of reflective thought. After arriving at a decision he reviews all aspects before taking action.

#2 & #8: His will to initiate allows him to begin without influence from an outside source. Due to fatigue, present at the time of writing, he operates at a less energetic level,

at first. Further into the day, or into a project, his energy increases as he gets more enthused. He'd rather others follow through with "nitty gritty" details, but when necessary this writer tends to complete whatever he's begun. An element of restlessness causes him to begin many projects. Time doesn't always allow completion of each, thus he requires the cooperation of others.

#3 & #9: He is friendly and has a desire to be helpful especially when his sympathy is aroused. He may intrude into situations unaware that he might be interrupting. Even though his image of self is within range of the norm and he doesn't concentrate on his own needs, he has confidence in his ability and commands respect.

#4 & #10: A talent for expression, for presenting ideas in the written and spoken word, is present. Skill in communication depends upon the capacity to identify with another person. This area (#4) reveals the ability to remember people, their names, their interests, and the objects of their world. Judgement (#10) depends upon the ability to remember past experiences and facts. This combination, presentation and judgment, when in balance, as in this case, indicates that this writer's communications have substance.

#5 & #11: Feelings of devotion and sentiment toward his loved ones are present. Control over these feelings allows him to regulate his response to emotional situations without overreacting to them.

#6 & #12: The potential toward productivity is within range of the norm. Fatigue is limiting his level of physical drive. Efficiency is dependent upon the ratio of expendable energy. Both drive and efficiency are present, but neither is outstanding at this time.

INTEGRITY: This writer is in-the-main a fairly honest person. He can "fudge a little" in order to gain a particular goal. He may find it difficult to admit the truth of disagreeable facts. The disparity between his parents and his own disappointment in them is covered up. He finds it easier to escape the issue rather than to communicate his deep dissatisfaction over this situation with others.

MOVEMENT PICTURE: Although his level of energy is less than range of the norm, his interest in a variety of projects causes him to press forward. Time doesn't allow a leisurely completion. He enlists the interest and cooperation of others.

FORM PICTURE: This writer is orientated toward the goals he's set. Among them is the desire to be considered a reliable and superdependable person. He's interested in intellectual growth. He enjoys persuading others, selling them on his ideas and enlisting interest in the plans he's made.

SPACE PICTURE: As for his environment, even though he'd rather not expend the effort to follow through with all projects, he is critical that everything is done correctly and accurately. In his personal life he reveals a friendly and loving nature without losing control.

Inner conflict is revealed by comparing the MOVEMENT, FORM, and SPACE diagrams. The movement picture indicates his basic nature is outgoing and pleasure seeking, aimed at involvement with others, even though fatigued. The positive form picture shows

that he is motivated by the goals he's set, which are intellectual growth and the desire to be considered a reliable and superdependable person. These direct his interest inward. Opposing attitudes, one beamed outward and the other aimed toward the inner man, can cause fatigue. Finally, the space picture reveals how he handles his environment. He's friendly and outgoing and yet keeps his personal life private.

DISCUSSION

Generally, a profile of an accountant would be strong in the tenth and eleventh spoke (judgment and control), perhaps a little less strong in the first spoke (versatile mind) and heavier on the left half of the total wheel (more introversion). L.H.'s diagram and handwriting differs from this expected pattern.

The movement picture, which reveals inborn qualities as well as vitality, usually records a high score in a person of this age, 29 years. Plus 25 to 35 is about average. When the level of vitality is strong other characteristics make a stronger showing. Initiative (#2), drive (#6), the will to concentrate (#7), the will to persevere (#8), the talent for solving problems, and efficiency (#12) depend upon a high ratio of expendable energy. These would most likely increase when rest, sleep, or recreation restores the weary person. In fact it is possible all spokes, even those which indicate outstanding characteristics, might be stronger.

Prior to the time of writing, L. H. graduated from Northwestern University, School of Business. He attended evening classes while holding a position as head of a bookkeeping department in a manufacturing firm during the day. It took eight years to finish an otherwise four-year course.

He and another young man organized a dance band, which played for weddings and proms. This venture didn't last too long.

He borrowed money to purchase the failing firm, by persuading the bank to lend money without collateral, on a promise to pay back in one year, or forfeit the firm. L.H. turned it into a successful business, while on the job during the day. At the same time he began another manufacturing business, working nights. In time these two companies merged into one. From his history one can safely say that he was an entrepreneur, capable of handling a variety of interests. He was a chief executive officer, an accountant, instructor of subjects both mechanical and technical, manufacturer, designer, tax expert, in later years, a computer programmer, writer, and nationally known lecturer.

He encouraged and inspired businessmen and personal friends to develop their talents. Often L. H. acted as adviser to those who could not afford a lawyer, and saw them through difficult financial or legal situations.

One can see the potential in three areas in this diagram. First the most outstanding characteristic is his versatile mind, the ability to handle a variety of interests. This spoke (#1) also reveals the desire to persuade others, just as salesmen, teachers and preachers do. Add

SYNTHESIZER PAGE

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1a	+	+	+	+		+	+	+			+	+	
1b	+	+	+	+		+	+	+			+	+	
1c	+	+	+	+		+	+	+			+	+	
2.	+	+	+	+		+	+	+			+	+	
3.	+	+	+	+		+	+	+			+	+	
4.	+	+	+	+		+	+	+			+	+	
5.	+	+	+	+		+	+	+			+	+	
6.	+	+	+	+		+	+	+			+	+	
7.	+	+	+	+		+	+	+			+	+	
8.	+	+	+	+		+	+	+			+	+	
9.	+	+	+	+		+	+	+			+	+	
10.	+	+	+	+		+	+	+			+	+	
11.	+	+	+	+		+	+	+			+	+	
12.	+	+	+	+		+	+	+			+	+	
13.	+	+	+	+		+	+	+			+	+	
14.	+	+	+	+		+	+	+			+	+	
15.	+	+	+	+		+	+	+			+	+	
16.	+	+	+	+		+	+	+			+	+	
17.	+	+	+	+		+	+	+			+	+	
18.	+	+	+	+		+	+	+			+	+	
19.	+	+	+	+		+	+	+			+	+	
20.	+	+	+	+		+	+	+			+	+	
21.	+	+	+	+		+	+	+			+	+	
22.	+	+	+	+		+	+	+			+	+	
23.	+	+	+	+		+	+	+			+	+	
24.	+	+	+	+		+	+	+			+	+	
25.	+	+	+	+		+	+	+			+	+	
26.	+	+	+	+		+	+	+			+	+	
27.	+	+	+	+		+	+	+			+	+	
28.	+	+	+	+		+	+	+			+	+	
29.	+	+	+	+		+	+	+			+	+	
30.	+	+	+	+		+	+	+			+	+	
31.	+	+	+	+		+	+	+			+	+	
32.	+	+	+	+		+	+	+			+	+	

Figure 11. L.H.'s Synthesizer Page.

this to the talent for expression (#4) and judgment (#10), and we have an individual who is capable of success.

The above example indicates how fatigue in handwriting may not show the true measure of a man. Each writing specimen reveals the writer as he or she is at a particular time in space. It is not a permanent picture.

INTERPRETATION OF THE CHARACTER DIAGRAMS (Figures 12 & 13)

The twelve spokes in each character diagram indicate an essential character trait. The balance or lack of balance between opposite spokes, each of which is a combination of many signs, reveals additional personality characteristics. For example, when #1 (Versatile Mind) is strong and the opposite spoke #7 (Concentration) is weak (more than 3 points apart) the word superficiality comes into play. If #1 is weak and #7 is strong, obstinacy is underlined, or circled, depending upon the numerical difference between them.

Three diagrams titled MOVEMENT, FORM and SPACE when combined result in the large CHARACTER DIAGRAM (Figure 12). MOVEMENT depicts the level of energy which moves the writer into action. FORM reveals goals and aims. SPACE depicts how the writer handles his world.

The sum of the top half of each diagram (10+11+12+1+2) shows the strength of involvement with thoughts, the mind, and spirit (Figure 12). The sum of the lower half indicates the likely follow-through with the ideas and instructions of others.

The sum of the right half of the diagram (1+2+3+4+5) if dominant indicates that the attitude and interests of the writer are directed outward into the world of people, objects, and a desire to look ahead toward the future. The sum of the left half of the diagram (7+8+9+10+11) when strong reveals the interests and attitude of the writer are directed inward toward the inner man.

EGO STRENGTH (12+1+2) if strong and outstanding shows an individual who is able to maintain his ego, is confident of his ability. EMOTIVITY (3+4+5) reveals the capacity for emotional response. FIRMNESS OF INTENTION (6+7+8) strives toward goals. CONTROL (9+10+11) when strong indicates one who wishes to be superdependable and reliable.

The large CHARACTER DIAGRAM, total of F+M+S, which reveals the observable behavior, is transferred to a separate page (Figure 13). This page holds one-word character descriptions of each spoke. These are interpreted according to psychological principles.

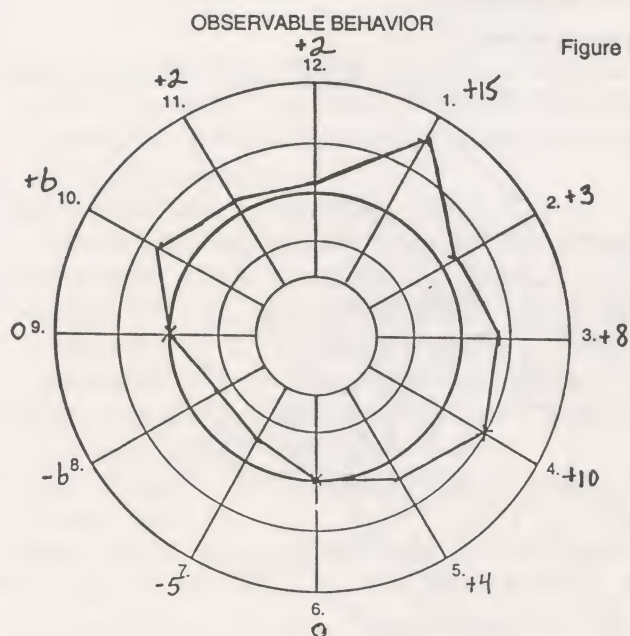


Figure IV L.H.'s DIAGRAMS

	M	F	S	
1.	<u>7</u>	<u>9</u>	<u>-1</u>	= <u>15</u>
2.	<u>-1</u>	<u>4</u>	<u>0</u>	= <u>3</u>
3.	<u>2</u>	<u>0</u>	<u>6</u>	= <u>8</u>
4.	<u>7</u>	<u>3</u>	<u>0</u>	= <u>10</u>
5.	<u>-2</u>	<u>1</u>	<u>5</u>	= <u>4</u>
6.	<u>-3</u>	<u>0</u>	<u>3</u>	= <u>0</u>
7.	<u>-6</u>	<u>-1</u>	<u>2</u>	= <u>-5</u>
8.	<u>-9</u>	<u>-2</u>	<u>5</u>	= <u>-6</u>
9.	<u>-4</u>	<u>3</u>	<u>1</u>	= <u>0</u>
10.	<u>1</u>	<u>2</u>	<u>3</u>	= <u>6</u>
11.	<u>-4</u>	<u>3</u>	<u>3</u>	= <u>2</u>
12.	<u>2</u>	<u>3</u>	<u>-3</u>	= <u>2</u>

$$\underline{-10} \quad \underline{+25} \quad \underline{+24} = \underline{+39}$$

above 28 below 3
left -3 right 40

$$\begin{array}{r} 12. \quad \underline{2} \\ 1. \quad \underline{15} \\ 2. \quad \underline{3} \\ \hline +20 \end{array}$$

$$\begin{array}{r} 3. \quad \underline{8} \\ 4. \quad \underline{10} \\ 5. \quad \underline{4} \\ \hline +22 \end{array}$$

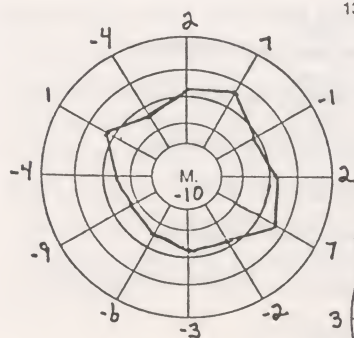
$$\begin{array}{r} 6. \quad \underline{0} \\ 7. \quad \underline{-5} \\ 8. \quad \underline{-6} \\ \hline -11 \end{array}$$

$$\begin{array}{r} 9. \quad \underline{0} \\ 10. \quad \underline{6} \\ 11. \quad \underline{2} \\ \hline +8 \end{array}$$

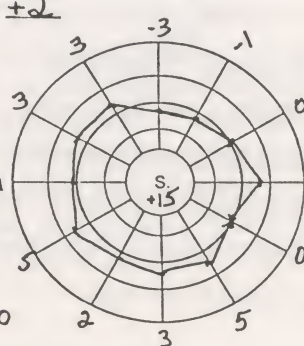
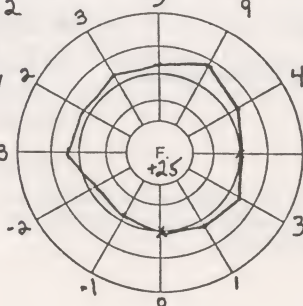
$$13. \quad \underline{+2} \quad + \quad \underline{+4} \quad + \quad \underline{-4} = \underline{+2}$$

(To enter—reverse the figure from minus to plus, or plus to minus.)

Form
GOALS



Movement
VITALITY



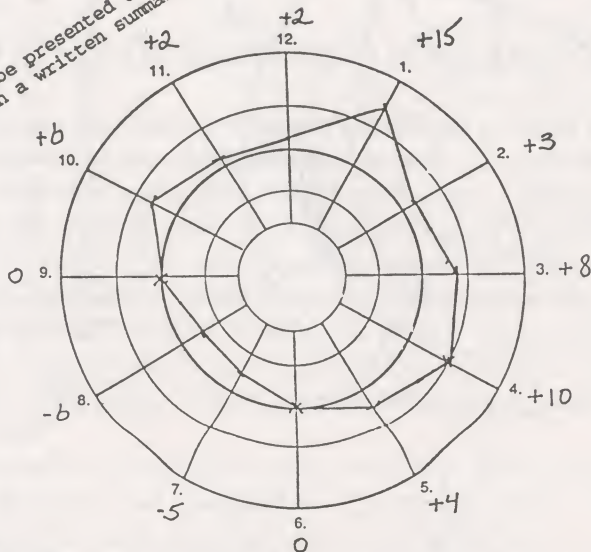
Space
ENVIRONMENT

Figure 12. L.H.'s Diagrams.

CHARACTER DIAGRAM

Date 5/24/41 Name L. H.

This diagram may be presented to the client along with a written summary.



NOTE: Personality characteristics are crossed out when opposite spokes are in agreement. When opposing spokes differ more than three points the additional characteristic is underlined.

1. Versatile Mind—Superficiality

2. Initiative, Verve—Restlessness

3. Congeniality—Obtrusiveness

4. Presentation, Expression—Verbosity

5. Sentiment, Emotion—Submission to Instincts, Impulse

6. Ambition, Drive—Vanity

7. Concentration—Obstinacy

8. Perseverance—Fussiness

9. Self-confidence—Conceit

10. Judgment—Criticism

11. Self-control—Inflexibility

12. Efficiency—Ability for Mental Growth

*13. Integrity—2

*#13 does not appear on the diagram.
It gives additional information through
its point value.

Figure 13. L.H.'s Character Diagram.

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BIOGRAPHY: Elizabeth Semler-Delmar (Betty), a Professional Life Member of the American Association of Handwriting Analysts, is also a member of HAI, Handwriting Analysts International. Past president of AAHA, Betty served in many other posts. A devotion to the arts, music, and drama gave way to graphology which has been a most important part of her life, after her family. Mudelein College, Chicago campus, offered courses in research and the psychology of human behavior which complimented her continuing graphological studies. Betty's graphological activities include screening for industry, lecturing, teaching, and writing. She free-lanced for the Chicago Police Department, Juvenile Division. Betty taught graphology in the Adult Education programs of Oakton College, Park Ridge, Illinois; Carthage College, Kenosha, Wisconsin; and in residence. Her publications include *Wittlich's Graphological Diagram, Simplified* (1981), *Schematic Graphology* (1987), monographs on *Love, Truth, Half-truths & Deception*, and *Profiles for Personnel*.

THE PHYSICAL ASPECTS OF STROKE TEXTURE

Alan Levine, M.D.

ABSTRACT: This paper examines Dr. Rudolph Pophal's concepts regarding the personality implications of the internal structure of the stroke. Four sets of experiments were designed to determine the relative importance played by the physical forces of pen, ink, and paper surface versus personality in producing variations in the stroke texture. All results were photographed at magnifications of 17.5X to 50X, and pertinent examples are reproduced.

The results indicate that physical forces are primarily responsible for the appearance of the pattern in the interior of the stroke. The role of personality was very limited and evident only in the effects of pressure variation on texture density. The findings do not support Pophal's conclusions, and offer an alternate explanation for differences in stroke texture.

Stroke texture is a concept originally formulated by Dr. Rudolph Pophal, a highly regarded neurologist and graphologist working in the 1940s to 1960s [1]. It is part of the triad of ductus assessment: width, borders, and texture, and is considered by many as an important indicator of basic personality structure.

The texture or quality of the stroke is defined as the central patterning of the ink contained within the edges of the stroke (Figure 1). It excludes all other facets of the stroke including pressure. Indeed it is only the stroke without pressure, or release stroke, that Pophal considered pertinent [2]. In order to appreciate the details of stroke texture it is mandatory to examine the material with at least 16x magnification. Higher powers of 30-50X permit even greater detail to be evaluated.

Another precondition for stroke interpretation required the writer to use a pen of their own choosing, or one with which they were entirely comfortable [2].

Pophal described three types of stroke texture: homogeneous, granulated, and amorphous [3]. Tables 1-3 provide descriptions of each type and their attendant personality implications as translated and summarized by Thea Stein Lewinson. Figure 2 depicts the appearance of each of the three types [4].

It was also observed by Dr. Pophal that a writer could not voluntarily alter the quality of the stroke [2].

Throughout this paper all references to "stroke" are narrowly limited to the internal ink-patterning or texture, and do not include any other aspect of stroke makeup.

TABLE 1***The Homogeneous Stroke (“woven stroke”)******A. Appearance***

Integrated structure with internal differentiation
 Organically formed
 Woven, enlivened, animated, homogeneous-differentiated
 Firm, dense, coherent
 Intimate and close coherence of pigment particles
 Clear, transparent, simple
 Clean, neat, quiet, even
 Rhythmic exchange between lighter and darker parts
 Conveying the impression of a plane of ribbon

B. Interpretation

Inner firmness, stability
 Even formative principle
 Inner solidity and “soundness”
 Reliability, trustworthy, faithful to own standards
 Simplicity
 Inner clarity and cleanliness
 Enlivened multifariousness (many-sidedness)

TABLE 2***The Granulated Stroke (“porous stroke”)******A. Appearance***

Unintegrated with lack of internal differentiation
 Unorganically formed
 Not animated, mechanical, unhomogeneous-undifferentiated
 Loosened, dissolved, perforated, not firm, porous
 Diffusion of pigment, dissolving of pigment
 Unclear, dim, unevenly brightened
 Granulated, mottled, spotty, washed out, burned out
 Agitated, flickering, uneven, “moldy”
 Usually some depth penetration, “knitted” stroke

B. Interpretation

Lack of inner firmness
 Inner looseness, instability
 Inner brittleness, lack of substance
 “Lack of character,” weakness, unreliability
 Unprincipled, not faithful to own standards
 Excitability, lack of harmony

TABLE 3***The Amorphous Stroke (brush-like stroke)******A. Appearance***

Integrated structure without internal differentiation
 Homogeneous-undifferentiated
 Lifeless, dead, uniform, monotonous
 Monochromatic, pigment diminished by melting
 Dim, opaque
 Mostly conveying the impression of a plane

B. Interpretation

Lack of emotional-intellectual differentiation
 Uninterested uniformity
 Leveling uniformity
 Indifference, boring
 Lack of liveliness and emotional content-sobriety
 Psychic monotony
 Simple, primitive psychic activity
 “Lack of character,” weakness, unreliability

Tables 1, 2 and 3 describe Pophal’s three types of stroke texture: homogenous, granulated and amorphous.

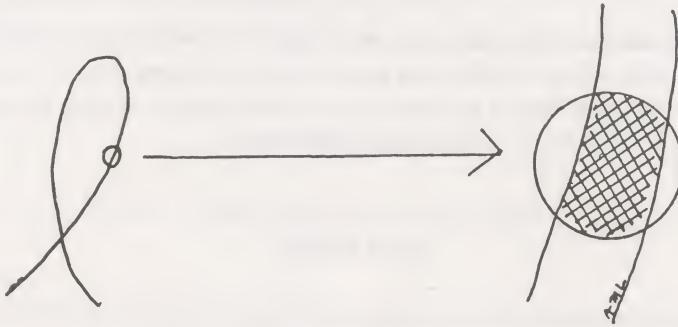


Figure 1. Location of stroke texture magnified 16x.



Homogeneous



Granular



Amorphous

Figure 2. Pophal's three stroke types.

I am now writing with a felt-tip pen.
I am now writing with a ballpoint pen.
I am now writing with a pencil
I am now writing with a flexible-nib pen.

Figure 3. The writer writes the same sentence with different pens.

PURPOSE

The primary reason for this study was to re-examine the theory of stroke texture. The emphasis was on delineating the physical parameters concerned with the internal structure of the stroke and included forces generated by the interaction of pen, ink and paper. Was personality or physics the major determinant of texture?

METHODS

Four experiments were devised to examine the physical factors concerned with creating stroke texture. All samples were examined under magnifications of 16x to 50x.

Experiment 1: One Writer, Varying Instruments and Papers

Each subject used four different writing instruments on three different types of paper. The five participants each wrote with a ballpoint pen, a nib pen, a felt-tip pen and a pencil. The three paper types were highly textured, moderately textured, and smooth-surfaced, nonabsorbent. On each paper the subject wrote, "I am now writing with a _____," filling in the blank with the name of the instrument used. In some instances the nib pen was used twice on a given paper (Figure 3).

The stroke texture of each specimen was examined stereoscopically with a slitlamp biomicroscope at magnifications between 16x and 30x. Representative areas were then photographed through a microscope at 17.5X and 50X on Kodachrome film using a 35mm single lens reflex camera and macro lens. An external light source was used to illuminate the paper from above. The problem of image blur secondary to the extremely narrow depth of field was overcome by stabilizing the focal area of the paper. This was accomplished by using an inexpensive stationery-store plastic stencil of various sized circles. The area to be photographed was isolated well within an appropriate circle. Mild pressure on the stencil prevented movement of the paper vertically and thus permitted accurate focusing to be achieved with the microscope.

Experiment 2: Different Writers, Same Instrument and Paper

Thirty nine writers signed their names using the same nib pen on one sheet of paper; 34 different subjects signed their names on another identical paper all using the same ballpoint pen. The stroke texture was examined and photographed as in the first experiment.

Experiment 3: Attempt To Change the Texture

Using both ballpoint and nib pens on a single sheet of paper, efforts were made by the author to vary the internal structure of the stroke.

Experiment 4: One Writer, Multiple Pens, One Paper

Two subjects wrote with four different types of nib pens and then four different ballpoint pens using a single sheet of paper for all. From each group one instrument was selected as “preferred.”

OBSERVATIONS

Experiment 1: One Writer, Varying Instruments and Papers

Textured Paper:

The two different grades of textured paper produced very similar results, and therefore will be considered as one type.

The low viscosity, “watery” ink of a nib pen on textured paper flowed readily and uniformly, saturated the superficial layers of fibres, and filled the crevices and fibres at deeper levels in the paper. The texture in this experiment was the densest of all and each of the five writers had a consistently similar pattern (Photos 1-2).

The thicker, syrupy ink of a ballpoint pen tended to adhere to the surface with clumps of ink gathering randomly on the fibres. The deeper layers contained much less ink than in the nib-pen examples. Thus individual fibres in the paper were more cleanly outlined, and there were more clear spaces within the stroke. Typical burr striations were noted. Each of the five writers had the same general internal stroke texture (Photos 3-4).

A felt tip pen produced a stroke pattern that consisted of two tones. A thicker, darker tone adhered to the surface of the paper fibres, and a much paler, more evenly distributed color stained the deeper layers. The surface pattern was due to the more viscous component of the ink; the more fluid base seeped down onto the deeper fibres staining them lightly. Each of the five writers had a remarkably similar stroke texture (Photos 5-6).

The pencil had a distinctive pattern because of the microscopic flaking of graphite particles on the paper surface. The lack of a fluid base left the deeper component of the paper unaffected. The random distribution of surface fibres were neatly outlined by the graphite. There was a distinct likeness in the stroke pattern of all the writers (Photos 7-8).

In each of the above tests a totally distinctive texture in the stroke was effected by each instrument. There was no difficulty in identifying which of the four different patterns was associated with a particular instrument. In addition, every writer generated nearly the exact same set of patterns with each of the four instruments. Minimal variations in the internal form did occur and were consistently related to increased pressure of the stroke. This resulted in compression of the surface fibres, increased release of ink, and a denser version of the typical pattern. Differences in pressure were noted also in the contraction and release strokes for each writer with similar minor changes in the intensity of the patterning. However the basic diagnostic textural features for each writing instrument on this paper type remained unchanged and unique despite pressure fluctuations.



Photo 1. Writer "C." Nib pen,
textured paper, 50x.



Photo 4. Writer "G." Ballpoint,
textured paper, 50x.



Photo 2. Writer "G." Nib pen,
textured paper, 50x.



Photo 5. Writer "G." Felt pen,
textured paper, 50x.



Photo 3. Writer "M." Ballpoint,
textured paper, 50x.



Photo 6. Writer "A." Felt pen,
textured paper, 50x.

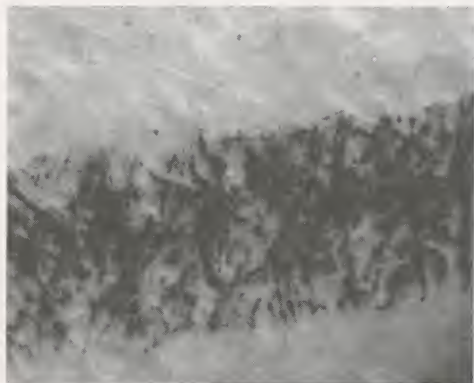


Photo 7. Writer "P." Pencil,
textured paper, 50x.



Photo 10. Writer "C." Nib pen,
smooth paper, 17.5x.



Photo 8. Writer "G." Pencil,
textured paper, 50x.



Photo 11. Writer "P." Ballpoint pen,
smooth paper, 50x.



Photo 9. Writer "G." Nib pen,
smooth paper, 50x.



Photo 12. Writer "G." Ballpoint pen,
smooth paper, 50x.



Photo 13. Writer "P." Felt pen,
smooth paper, 17.5x.



Photo 14. Writer "M." Felt pen,
smooth paper, 17.5x.

Smooth Surfaced Paper:

This paper is manufactured with a waxy base, no textured fibres, and has virtually no capacity for absorption of ink into the deeper layers. It produced stroke patterns that reflected its hard surface properties.

The ink from the nib pen resulted in an exceedingly dense arrangement. Excess ink either clumped on the surface, or was pushed towards the border of the stroke. All writers had this same stroke texture (Photos 9-10).

The thicker ballpoint-pen ink had a characteristic tendency for thickening the borders of the stroke and leaving the center of the stroke uniformly paler. The ballpoint rotation forced the ink centrifugally on the slippery paper surface towards the edges. There it accumulated leaving a beautiful thick-edged appearance to the stroke. All writers had a comparable pattern (Photos 11-12).

The felt-tip pen left a blizzard of minute, suspended particles within a more lightly stained milieu. All writers had the same distinctive stroke texture (Photos 13-14).

The pencil track was the least dense of all, with graphite particles scattered on the surface interspersed with bare areas. All writers had the same or similar pattern.

As with the results in the textured paper portion of this experiment, each instrument yielded a separate, unique pattern on this paper. Moreover, the pattern for each instrument was entirely different on this paper than it was on the textured paper. Each of the five writers demonstrated the same characteristic pattern with each of the four instruments. Variations in pressure caused minimal variations in the stroke without ever changing its basic attributes.

Experiment 2: Different Writers, Same Instrument and Paper

The stroke texture was surprisingly similar for the 39 people who signed their names using the same nib pen on the same sheet of stationery. The pattern was identical to that of the nib pen on textured paper described above. Variations in the basic flooded pattern were related strictly to pressure. The writers who exerted heavier pressure had a more saturated stroke texture due to an increased release of ink, and compression of fibres. This observation was also noted in the difference between contraction and release strokes in a given writer. The basic texture was the same; the contracted stroke was simply more heavily inked.

The internal ink patterning for the 34 individuals using one ballpoint pen on the same sheet of stationery was the same, and mimicked the pattern for a ballpoint pen on textured paper described above. The woven texture due to outlining of the paper fibres was lighter when pressure was light, and became denser when pressure was increased. As in the nib-pen example above, this observation was noted in contraction and release strokes in a single writer as well as a reflection of pressure differences between writers. In all cases the basic unique identifying features of a ballpoint pen on textured paper remained as a constant irrespective of the effects of pressure.

Experiment 3: Attempt To Change the Texture

The author deliberately set out to change the texture of the stroke using first a ballpoint and then a nib pen. Writing was performed with varying degrees of speed, contraction-release, emotional intensity and determined concentration attempting to visualize and manipulate the tip of pen inside the stroke. Despite multiple attempts to influence the basic texture, each pen reproduced its characteristic internal patterning with total disregard for the efforts of the writer. The texture of the stroke for a given pen and paper is unalterable.

Experiment 4: One Writer, Multiple Pens, One Paper

The ink patterning inside the stroke for the four nib pens was the same except for density differences related to pressure or variable release of ink. The ink patterning inside the stroke was the same for the four ballpoint pens. The patterns for nib and ballpoint differed from each other as noted in Experiment 1.

COMMENTS

In the first experiment the purpose was to note the specific internal pattern constancy or variability if one writer used different instruments and papers. Do we each have our own singular stroke structure, or does it change when the physical factors of varying instruments and paper surfaces change?

The same writer using different instruments on a particular paper surface writes with entirely different stroke patterns with each instrument. Thus the importance of the particu-

lar type of writing instrument as a determinant of stroke texture is established. Secondly, the same writer with the same selection of instruments produces completely new patterns if the type of paper surface is changed. Thus the physical nature of the paper is another element in the formula. Thirdly, all the subjects had virtually the same variations in the patterning. Although the number of subjects was small the reproducibility of the findings was extremely high. Aside from slight alterations due to pressure differences, the input of the individual personality appeared to be negligible in creating the stroke patterns. It was the physical nature of the environment—the pen, ink, and paper that were paramount.

The ink in a nib pen, a ballpoint pen, and a felt-tip pen have remarkably different physical properties. Each ink has its own characteristic manner of clinging to the instrument tip, release from the tip, adherence onto and absorption into various paper surfaces. Within the confines of the paper structure, the movement of each particle of ink is determined by chance physical circumstances. Whether it settles high on a fibre or low in a valley, in the center of the stroke or off to the side cannot be controlled consciously or subconsciously by the writer. The movement of the myriad of ink particles on the paper occurs randomly. Keep in mind that the width of an average stroke is less than one millimeter.

The two paper types selected for this study were deliberately chosen for their markedly contrasting properties. One was a densely compressed, water-resistant, waxy surface with little or no fibrillar content. The other was the more familiar absorbent, textured paper with layer upon layer of randomly directed fibres and myriads of small, haphazardly arranged crevasses and micro-spaces. Each type presented entirely different conditions to the ink as each particle sought its final resting place on the paper. The patterns generated were remarkably dissimilar for each instrument on the two contrasting paper surfaces.

The second experiment was designed to investigate whether important differences in stroke texture would occur when a large number of individuals signed their names on the same paper with the identical pen. This study design automatically eliminated the pen-preference option, but nevertheless seemed to have worthwhile potential. Interestingly, all of the 34 subjects using the same ballpoint pen had an extremely similar pattern in their stroke. The minimal variations that were noted could be ascribed to pressure differences. Thirty four different writers each brought their exclusive personalities into the testing conditions, and yet they all produced one basic pattern. Please remember this refers only to the “texture” of the stroke (examined under at least 16X magnification) and not other aspects of the ductus.

The 39 people who used a nib pen on the same paper all produced a stroke texture characteristic of this instrument and writing surface. Once again the internal structure was practically identical for each writer except for the slight effects of increased or decreased pressure. If personality is a factor in producing texture certainly some differences would be expected in a sample of 39 writers. Other than the variations noted to be correlated with pressure variations there were no such findings. The presence of the three stroke types noted by Pophal could not be identified.

The third experiment confirmed the unalterability of the texture of the stroke in a given individual (*using one instrument on a particular paper surface**). Why does this occur? Is it due to the subconscious expression of personality within the borders of each letter, or is it due to the limitations imposed by the physical forces as the ink spreads over the path of the stroke? If personality plays a major role in the fixation of stroke texture, how does one reconcile this with the significantly different patterns that occur if pen type, and/or paper are changed? The physical forces interacting as we write within that one millimeter wide path seem a more acceptable reason for explaining this phenomenon of unalterability of stroke texture.

Experiment #4 was designed to address the question of the importance of pen selection in relationship to the resultant stroke texture. Pophal stipulated that it was necessary for the writer to choose a pen with which they were comfortable and felt at ease. The resultant writing would then be devoid of inhibitions or restrictions imposed by an instrument that was unfamiliar or caused any uneasiness. This set of circumstances would then result in a more optimized expression of the individual's personality; the validity of the findings in the stroke texture would also benefit from this pen selection process.

The question arises as to what degree the texture of the stroke (for a given writer on a given paper type) is dependent on the pen selection process. If one writes with an device that is "wrong," will the stroke texture be significantly different from that produced by a pen that is "right"?

Experiment #4 examined this question by having two subjects choose one pen from a group of four different nib pens and select another from four varied ballpoint pens. Writing was performed with each of the eight pens on a single sheet of paper. The findings after examination at 16-30x magnification indicated that the stroke texture was the same for all the nib pens; a typical "ballpoint texture" was present for all the ballpoint pens. There was no detectable variation in the stroke texture of the preferred pen when compared to the non-preferreds. Certainly other aspects of the stroke may be affected by pen choice, but this study did not address that issue.

In their classic treatise, Allport and Vernon state that not every expressive movement is directly related to an expression of personality. As examples they offer: exigencies of immediate goal; pathologic or accidental deformation of the body; conditions of health and disease; conditions of the physical environment, e.g., ground and climatic factors in walking or clothes and shape of chair in posture; or *pen, ink and paper in handwriting*** [5].

**author's addition in italics*

***author's emphasis in italics*

CONCLUSION

The results of this study do not support the personality implications of the stroke texture theory of Pophal. The findings suggest that physical forces play the dominant role in creating the texture of the stroke for a given specific combination of pen, ink and paper. The influence of personality was minimal and exerted primarily through variations in pressure. Such effects increased the intensity of the pattern but did not change the basic stroke structure.

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The author wishes to express his gratitude to Joanna Fancy for her interest in this project, and for her help in obtaining and supplying the handwriting samples used in the first experiment.

BIOGRAPHY: Alan Levine earned his medical degree at New York University and has been a practicing ophthalmologist since 1965. He studied graphology for eight semesters at The New School for Social Research in New York with Lois Vaisman and Patricia Siegel. He is a charter member and President of the American Society of Professional Graphologists.

THE CLIFFORD IRVING FORGERY

Marc J. Seifer, Ph.D.

ABSTRACT: The Clifford Irving forgery of the handwriting of Howard Hughes was a superior example of an intricate counterfeit. Irving not only reproduced the billionaire's signature, but he also created entire handwritten letters that fooled leading handwriting experts. This paper shall review this case and present a clear analysis to describe how the questioned documents were established to be forgeries.

In January of 1971, *Life Magazine* published a letter from Howard Hughes. This missive, addressed to two of his top officials, Chester Davis and Bill Gay, was in reference to the ousting of a third executive: Robert Maheu. *Life* hired Alfred Kanfer to analyze the handwriting. Kanfer, who is well known for his work in detecting tell-tale neuromuscular spasms in the handwriting of cancer victims, stated that the writing was that of a man with the following characteristics:

Here is an intellect of quite a peculiar nature....He keeps a very small, highly uniform margin throughout, indicating that he is not concerned with the form and formalities, at least not beyond a certain minimum point of order and decency. He is anxious not to waste any time or effort on anything he does not think is essential for his main interests. As he runs from one end to the other of a long sheet of paper, so may he be running through his life, his work. He may perhaps be driven, rather than be running on his own....Hidden in this personality are some spots of sentimentality, warmth and perhaps weakness. One could think that from his drives resistance may mount around him. His...strength may already be overstrained. [3, p.27]

Just one year later, Clifford Irving, a well-known writer with the McGraw-Hill Publishing Company, signed a six-figure contract with McGraw-Hill, and exclusive serial rights with *Life* to write an authorized autobiography of Howard Hughes. Inspired by his own earlier book *Fake!* about a master art forger, Irving had actually perpetuated a hoax, as he had never contacted Howard Hughes, although he had described to the publishers his various supposed meetings with the reclusive billionaire.

Having taken a calculated risk, Irving knew that Hughes was an eccentric hermit now, he was older in frail health, and was virtually impossible to get a hold of. Actually, ever since his business manager Noah Dietrich left him in 1958, Hughes had become progressively more paranoid. Not one newsman had even laid eyes on the richest man in the world in over ten years! Therefore Irving was banking on a number of possibilities:

I do not understand why the problem of Mahan is not yet fully settled and why this bad publicity seems to continue. It could hurt our company's valuable properties in Nevada, and also the entire state.

You told me that, if I called Governor Laxalt and District Attorney George Franklin, it would put an end to this problem.

I made those calls, and I do not understand why this very damaging publicity should continue merely because the properly constituted board of directors of Hughes Tool Company decided, for reasons they considered just, to terminate all relationship with Mahan and Stoofer.

I asked you to take whatever action is necessary to accomplish the objectives briefly outlined above.

I ask you now please to inform the members of the board of Hughes Tool Company of my desires and feelings in respect to this matter.

Figure 1. The first part of the "Dear Chester and Bill" letter (reduced from *Life*).

I ask you to do every-
thing in your power to
put an end to these prob-
lems, and further I ask
you to obtain immediately
a full accounting of any

and all funds and/or
property to which Mr.
Mahan may have had

As I have said, this
matter has caused me
the very gravest concern,
and is damaging my
company and all the loyal
men and women associated
with me in the very
deepest and far-reaching
way.

My sincere regards;

Howard R. Hughes

Figure 2. A section from the second page of the "Dear Chester and Bill" letter (actual size from Life).

1. Hughes might not even hear about the book due to his isolated condition.
2. He might be too paranoid to do anything about the situation.
3. He might be indifferent to the book or actually delight in the fraud himself.
4. Hughes might even be dying or dead by the time the book came out.

Armed with the "Dear Chester & Bill" letter from *Life*, Irving was able to forge a number of letters to the executives of McGraw-Hill from "Howard Hughes." The writing was quite extensive, i.e., full page handwritten letters; also the forgery was top-notch. It not only fooled the editorial staff, but also the graphologist, Alfred Kanfer, and questioned-documents experts Russell and Paul Osborne. Having studied six forged letters, one of which was over 1000 words long (to Mr. McGraw), Alfred Kanfer stated:

The two handwriting specimens written by the same person...both show full identity in regard to the strongest and most outstanding characteristic, the very wide and almost disintegrating spacing between words....Even the irregularities and fluctuations of size and pressure in both writings are identical. The chances that another person could copy this handwriting...are less than one in a million. [2, p. 99]

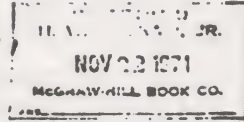
The Osborne brothers concurred, stating:

Both the specimen and questioned documents reveal great speed and fluency of writing. Yet the questioned documents accurately reflect in every detail the genuine forms and habit variations thereof which make up the basic handwriting identity of the author of the specimen documents. Moreover, in spite of the prodigious quantity of writing contained in the questioned documents, careful study has failed to reveal any features which raise the slightest question as to their common identity. [2, p. 133]

The authors of *Hoax* point out that the Osbornes were not allowed to work with originals, but were forced to work from their own photographs. However, this is no excuse, as an important rule of thumb in analyzing forgeries is always to work with originals (if they are in existence). One of the most important reasons for this is because of the pressure patterns. Forging the form of a writing is one thing; but to capture the automatized psychomotor impulses evidenced in the pressure is virtually impossible. Other reasons to use originals involve seemingly insignificant air strokes and minor slips of the pen that a photograph or xerox copy cannot pick up. Naturally, the original should remain pristine (and placed in a plastic holder). All use of ruler marks, and various attempts at superimpositions can be made with clean photocopies.

Figure 3 is a full page of one of Irving's fakes. As one can see, it is an excellent forgery. Each individual letter matches the letters in the "Dear Chester & Bill" letter, the spacing and slant is accurately matched as are the bizarre disconnections.

11-17-71



Mr. Harold McGraw
McGraw Hill
New York, N. Y.

Dear Mr. McGraw -

The facts placed before me, I find astonishing. I do not understand, in the first place, why it is not possible for your publishing house in possession of a legitimate contract between myself and Mr. Clifford Irving and between yourselves and Mr. Irving, for the publication of my autobiography, cannot deal firmly and forcefully with other publishers who which are asserting fraudulent claims to the rights which I have granted to Mr. Irving and Mr.

Figure 3. One of the Howard Hughes forgery letters composed by Clifford Irving (from Hoax).

Note, for instance, how Howard Hughes puts a break practically after every other letter. Notice the lack of continuity in the word *problem*, line 3, Figure 1, and in paragraph three, the words *these*, *understand*, *property*, *considered* and *relationship*. This brings us to the reason why Hughes' handwriting was relatively easy to copy. The forger could write one or two letters, rest, write another one or two, rest, and so on. As there is no fluency in Hughes' actual writing, the forger need not simulate one. Each letter could be carefully and easily placed next to the others. Although the Irving rendition gives the appearance that it was written quickly, he may have used a light box and taken a considerable amount of time to create this masterpiece of deception.

As the form is so similar, it must be reiterated that the handwriting examiner would have to rely on pressure patterns for total certainty.

Another important thing to consider in working with forgery cases is to get samples of the handwriting of people who might be suspects. Enclosed are two samples of Clifford Irving's handwriting. The first, Figure 4, appeared in the book *Hoax*. It looks nothing like Hughes' writing. However, the second, Figure 5, which appeared in the *Journal of Forensic Sciences*, looks very much like Hughes' writing. Note the lack of consistency to the writing trail, i.e., the numerous breaks between letters. Note, also, the changing sizes, and the print script quality and the letter *p*. All of these factors are similar to Hughes' real handwriting, Figure 6.

Dear Howard,

I hope I haven't screwed up by using this address but I consider it something of an emergency. I was distressed, naturally, that no contact was made on St. Croix — not just distressed that it left me totally out of touch but also worried on your account, having last seen you flat on your back. A word as to your good health would be reassuring.

Figure 4. Part of a fake letter to Howard Hughes by Irving (from *Hoax*).

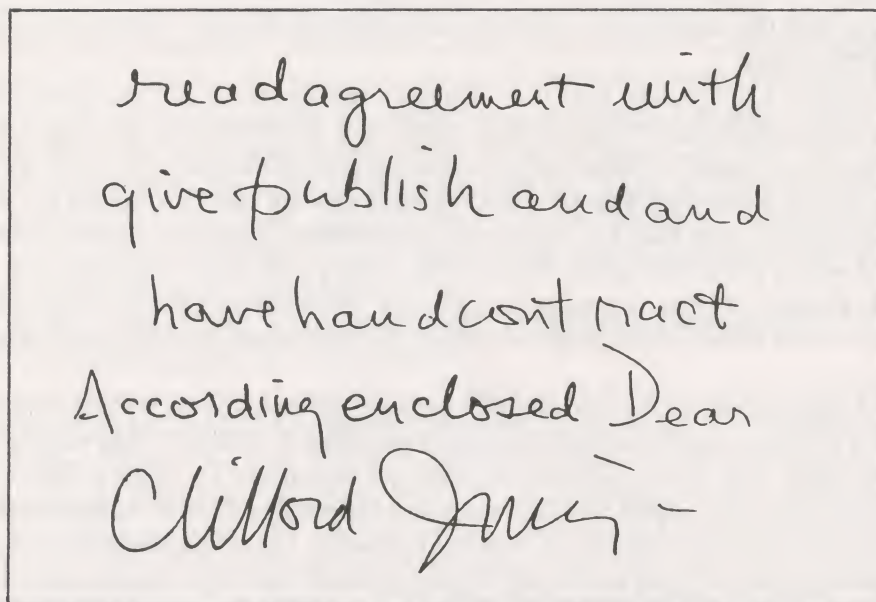
As for major discrepancies between Irving's handwriting and Hughes' real writing, note in particular that the forgeries are generally more rounded. Hughes' writing is leaner and more sharply written.

Other graphic patterns that appear in Hughes' writing and not in the Irving forgery involve minute automatized motor patterns at the ends of letters, most notably in the *f*, *p* and ending *e* (see Figure 7). Word endings usually represent the least conscious aspects to a writing trail, and therefore they are often the most difficult part of a writing to forge. In the Hughes sample, note how his *f*'s end with a movement going up, whereas in the QD, the *f*'s end with a movement going down. In the letter *p*, the circle continues into a little curlicue in Hughes' writing, but not in the QD. Also, the ending *e*'s tends to turn to the left (as do some other letters) in the Hughes' sample, but they never do in the questioned document.

Figure 8 contains one of Howard Hughes' genuine signatures at the bottom. The middle signature is a forgery, and the top one is a sample provided by Clifford Irving when requested by the court. Note how similar the bottom two signatures are. This is an excellent forgery. However, after careful analysis, numerous differences emerge. Starting at the left, and based upon Cabanne's analysis, we see the following: The *o* ends to the left in the QD, but is attached to the *w* in the known HH signature; the *w* ends with a horizontal stroke in the QD as can be found in Irving's known handwriting, but not in the HH exemplar. Moving to the *gh* combination, Hughes tends to swing up in a light graceful stroke, coming under and around to the right to create the top of the *h*, but the QD arrives at the top of the *h* from the left, and is written with a heavier more direct stroke. The *h* is always (or almost always) connected to the *e*'s in the numerous known HH signatures, but is separated from the *es* in the QD. The ending stroke is long and tapered in the exemplar and is short and more abrupt in the QD. The QD is also written more slowly.

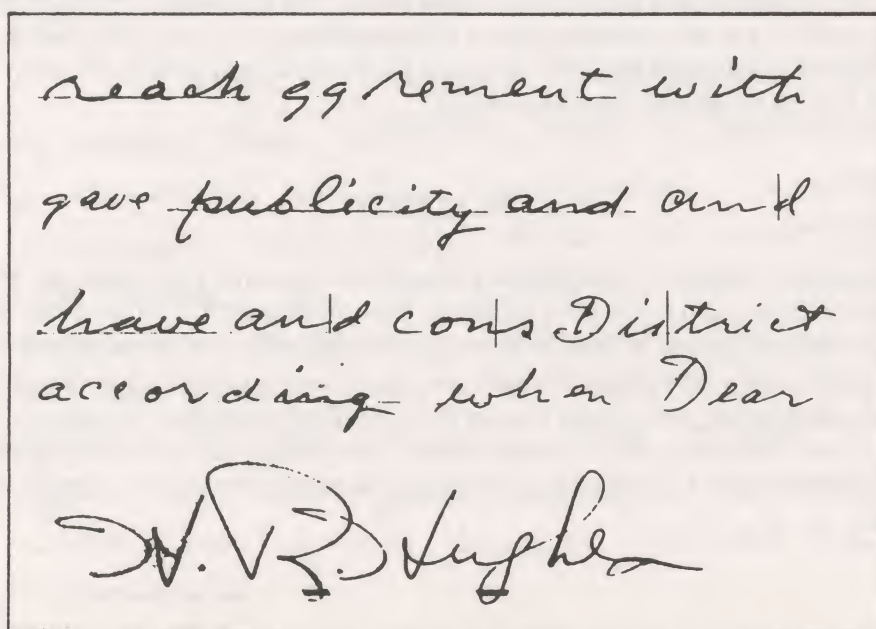
CONCLUSION

As a con-artist, Clifford Irving created a grand hoax, one that challenged not only the established order, but also that elusive recluse, Howard Hughes. In fact, he drove Hughes out of a paranoid seclusion, at least to the extent of appearing over the telephone to state that the autobiography was a fraud. Irving's success, though short-lived, was due in a large measure to the peculiar handwriting style of the billionaire, as Hughes' writing was choppy, inconsistent and written in piecemeal fashion. Unwittingly, the publishing of Howard Hughes' handwriting in *Life Magazine* helped sow the seeds for one of the greatest hoaxes of all times.



read agreement with
give publish and and
have hand cont tract
According enclosed Dear
Clifford Irving -

Figure 5. Known handwriting and signature of Clifford Irving used as an exhibit during the trial (from JFS).



reach agreement with
gave publicity and and
have and cons District
according when Dear
H. V. Hughes

Figure 6. Known sample of Howard Hughes' handwriting used in the trial (from JFS).


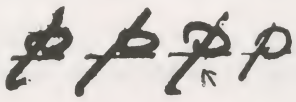
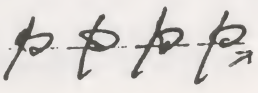

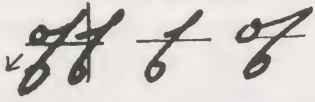
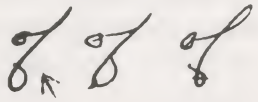

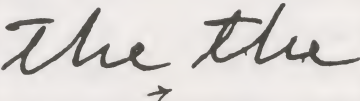
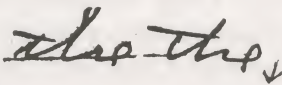
CLIFFORD IRVING	QUESTIONED DOCUMENT	HOWARD HUGHES
		
		
		

Figure 7. Parts of Exhibits C, D and E. In particular, compare the word endings of the QD with HH's handwriting (from JFS).

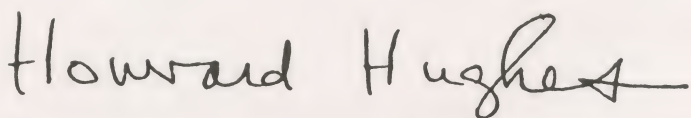
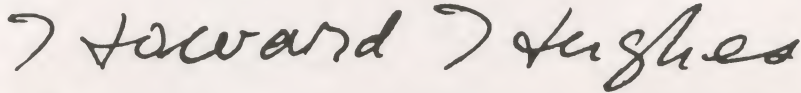
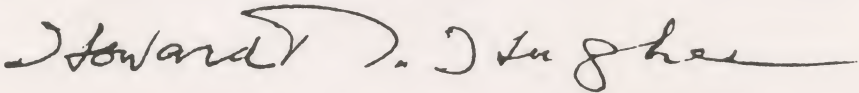
C. I.	
Q. D.	
H. H.	

Figure 8. The middle signature is the forgery. The top is a requested sample of CI's writing, whereas the bottom is a known sample of HH. Compare the ends of the *w*'s, the *he* combination and the ending *s* (from JFS).

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